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VOLUME 28 NUMBER 8 CALCUTTA APRIL 16, 1957

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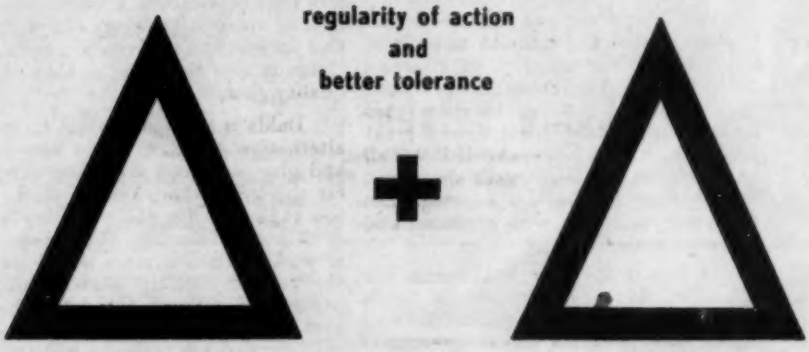

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Dalda
and its place in the diet

In a recent address on "Fundamental Problems of Vitaminology," Prof. Wilhelm Stepp, Emeritus Director of the Munich Medical Clinic, observed: "Even authoritative writers hold that in this epoch when foodstuffs abound, vitamin deficiencies are no longer seen. This is a fundamental error."

Prof. Stepp cited as an example the U.S.A., one of the well-fed nations of the world. "The addition of vitamins to the flour used for bread now practised in the U.S.A. goes on to show that insufficient vitamins seem to be a great peril which must be avoided at all costs. In effect it is not possible to buy bakery flour in the U.S.A. which has not been reinforced with vitamins and some minerals."

If this is the case in America the condition must be far worse in a country like India where the intake of milk, milk products and other animal foods is extremely low. To quote from the special report No. 27 published by the Indian Council of Medical Research: "According to Health Bulletin No. 23 (1951), issued by the Nutrition Research Laboratories, Coonoor, *vitamin A deficiency is the single factor responsible for a large number of nutritional deficiency diseases.* The daily allowances for an adult are in the neighbourhood of 3,000 to 4,000 I.U. of vitamin A. Animal foods, which are rich in vitamin A, are however, many times more expensive; hence this rich source of vitamin A cannot be utilised."

With a view to making good a part of the vitamin A deficiency in this country the Food Fortification Sub-Committee of the Indian Council of Medical Research had recommended that the vitamin A content of vanaspati should be raised to 700 I.U. per oz. thus making available to the people a good and nourishing fat at an economical price. This has been done with Dalda.

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Dalda is not a substitute for but an alternative to ghee. Fats like butter and ghee are good but their supply is far short of requirements and they are too expensive for the everyday use of most people. Further, the consumption of milk as milk is more beneficial than the consumption of ghee which is a product of milk, as then the consumer gets the animal protein as well as the calcium and vitamins. In most western countries people are increasingly consuming milk as milk. This should be the ideal trend in India also.

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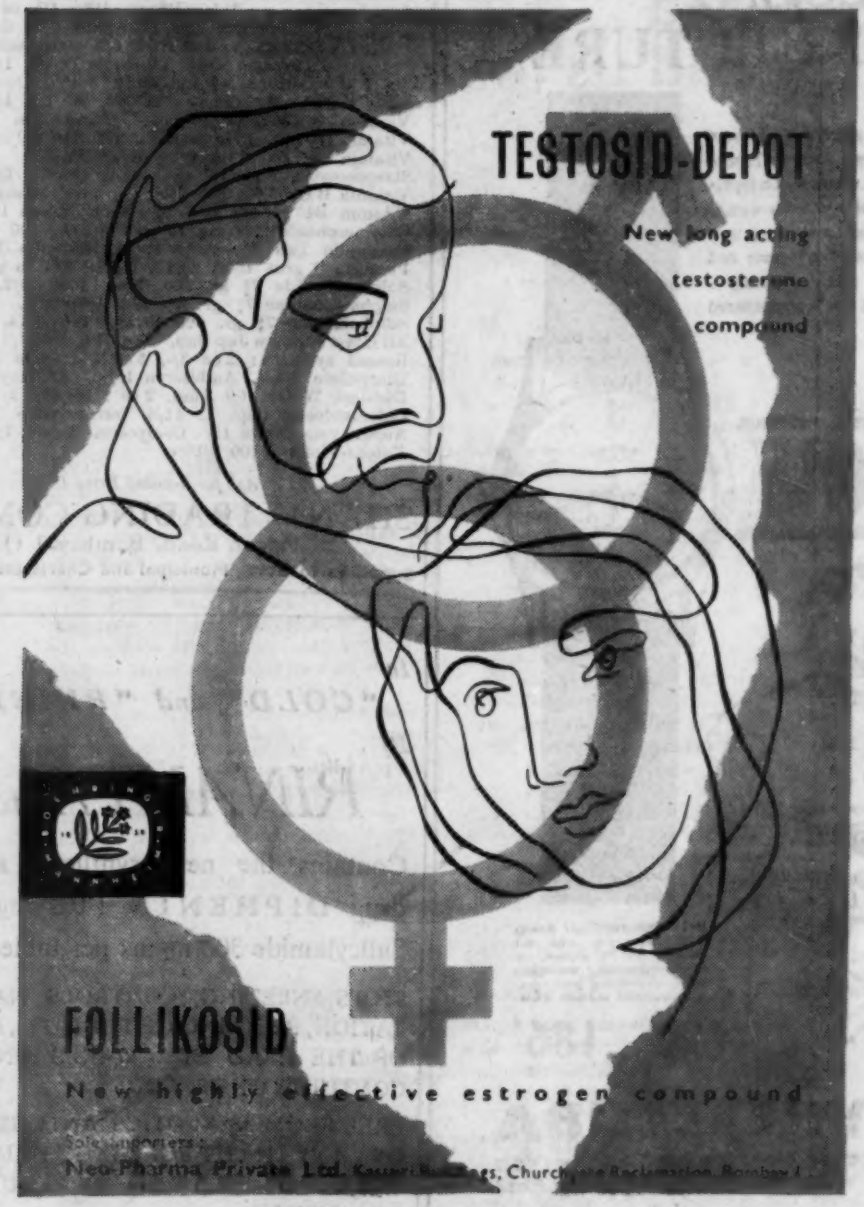
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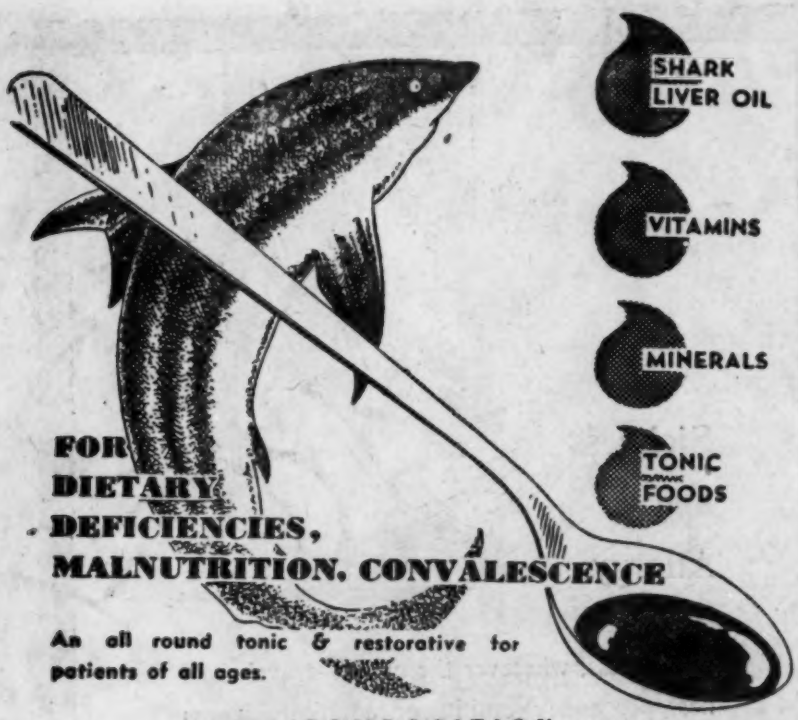

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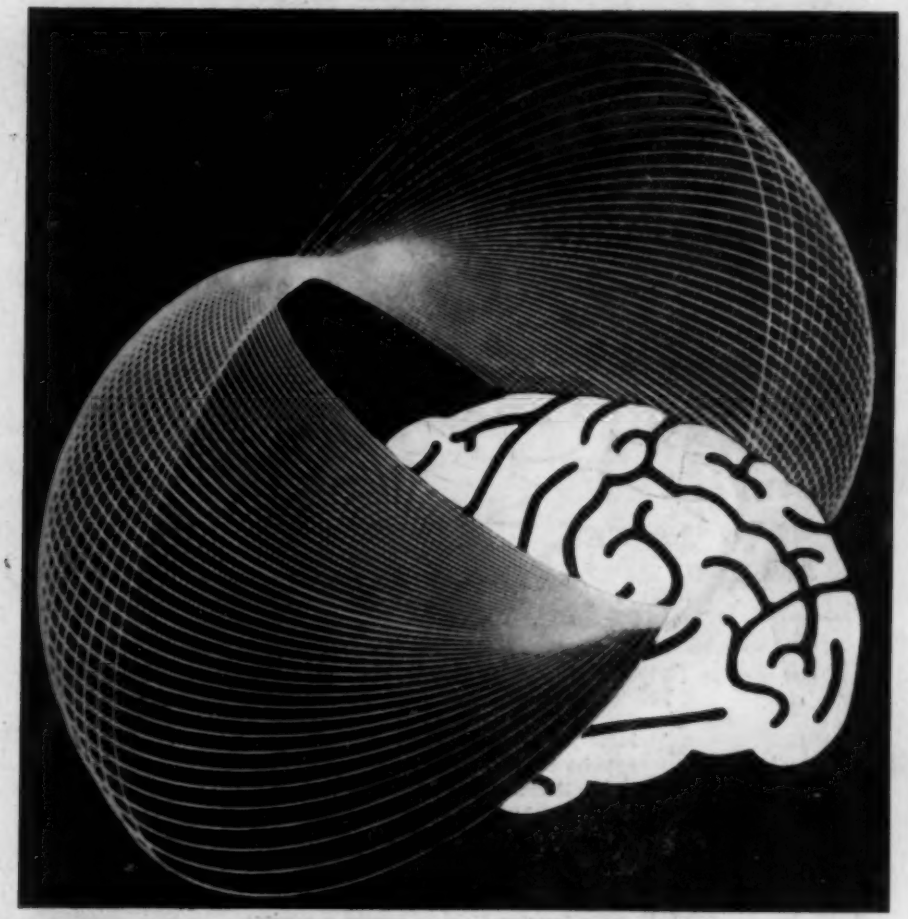

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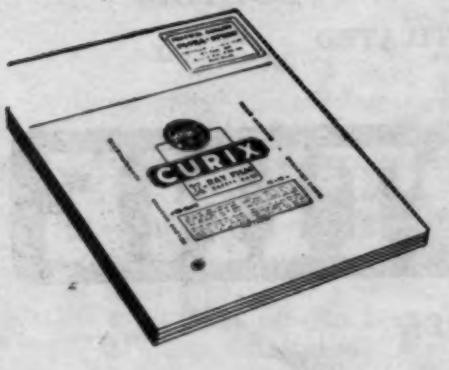

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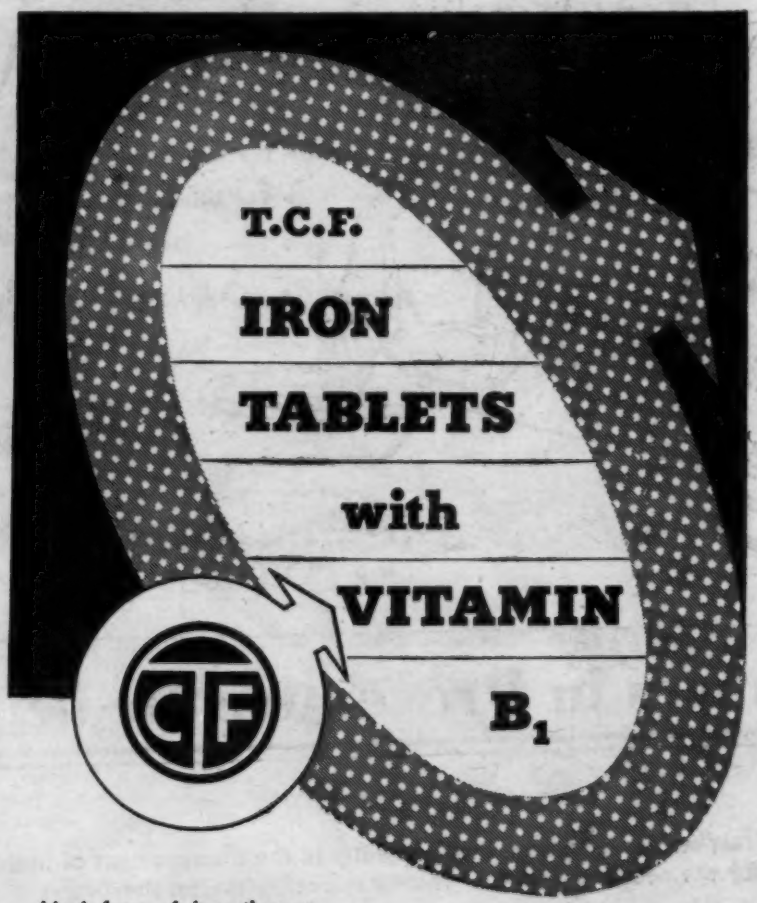

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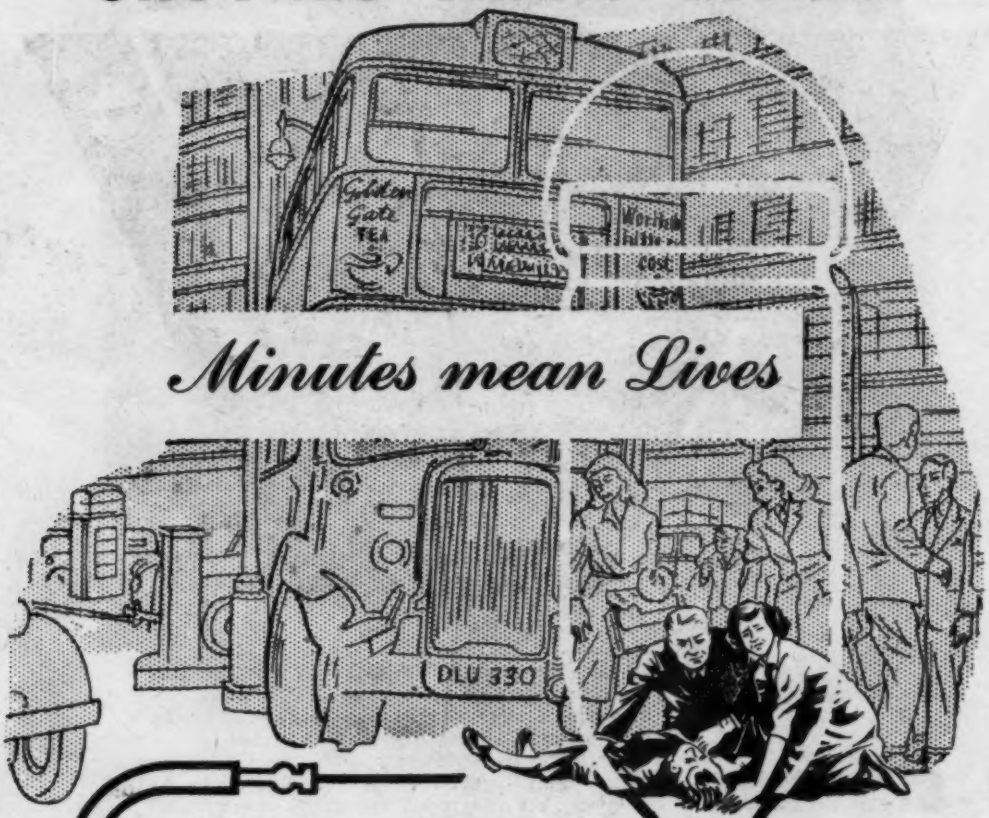

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ORIGINAL ARTICLES

RENAL EFFICIENCY IN DIABETES MELLITUS

RAGHUNATH CHANDRA SHARMA, M.B.B.S.,
GURBACHAN SINGH, M.B.B.S.
AND
MAN MOHAN SINGH, M.B., B.S., D.T.M. & H., D.P.H., L.M.
Department of Pathology and Biochemistry, Medical College, Amritsar

The fact that the advent of insulin has increased the life span of diabetics cannot be doubted. However, the incidence of chronic complications of diabetes, especially those as a result of arteriosclerotic changes, has increased considerably. Arteriosclerotic heart disease and renal failure are two of the leading causes of death in diabetics these days (Rabinowtch, 1948). Goodof (1945) considered that there is a definite relationship between the incidence of diabetic glomerulosclerosis and the duration of diabetes.

Besides the specific lesions of diabetic glomerulosclerosis, chronic pyelonephritis and nephrosclerosis are more common in diabetics than in normal persons. All these changes in the kidneys are responsible for much of the existing morbidity and mortality among the diabetics. With this point in view an attempt has been made in the present investigation, to study the renal function in diabetics by various renal function tests available.

MATERIAL AND METHODS

The present study lasted for a period of one year and was confined to the cases of diabetes mellitus uncomplicated by any other disease. They were a random collection of cases from various outpatient and inpatient departments of the V.J. and associated hospitals. Only those cases could be studied who were not in a too serious condition and could come to this department for various investigations.

Forty diabetic patients along with 20 normal persons were studied, to have a comparative idea of normal values for various tests in this part of the country. The study was a consecutive one in contrast to the selective studies reported.

Besides a detailed history and physical examination, the following investigations were carried out in every case:

1. Sugar tolerance test—for the diagnosis and evaluation of the severity of diabetes mellitus (Folin and Wu).
2. Renal function tests—(i) Urea clearance test. (ii) Blood urea estimation. (iii) Addis' concentration test. (iv) Detailed examination of the urine including physical, chemical and microscopical.
3. Liver function tests.
4. Complete haemogram.
5. Ophthalmoscopic examination.

RESULTS

Out of 40 cases studied, 26 cases (65 per cent) were males and 14 cases (35 per cent) were females. The majority of the cases (57·5 per cent) were between 40-60 years of age. As regards the duration of diabetes, out of 40 cases studied 28 cases

(70 per cent) had diabetes for less than 5 years' duration while the remaining 30 per cent had it for more than 5 years. 6 cases (15 per cent) were having diabetes for more than 10 years.

Regarding control of diabetes at the time of investigation, the large majority of them, viz., 95 per cent were either having no insulin or not having it regularly.

Normal cases—Only those cases which were apparently healthy and without any clinical evidence of disease in any of their systems were selected. Majority of them came from the same strata of life as the diabetic patients, and were practically within the same age range as the diabetic cases. (All had fasting blood sugar level below 120 mg. per cent, the average being 95·8 mg. per cent with a range of 77-111 mg. per cent).

No significant difference was observed in the values of urea clearance test in males and females.

Blood urea estimations ranged from 21 mg. per cent to 42 mg. per cent with an average of 26·74 mg. per cent while the values of Addis' concentration test ranged from sp. gr. 1015 to 1030 with an average of 1023·43.

The results of various renal function tests in normal cases carried out in the present investigation are in conformity with those obtained in the literature with slight variations.

Detailed urine examination was carried out in all the cases and it showed no abnormality.

Taking the above values as standard, statistical analysis of the various renal function tests in male and female cases and in cases with varying severity and duration of diabetes and in patients with and without ketosis was carried out. The results along with their significance are given in Table 1.

TABLE 1—SHOWING STATISTICAL ANALYSIS OF RENAL FUNCTION TESTS IN CASES OF DIABETES MELLITUS

	Urea clearance as percentage of average normal function	Blood urea mg.%	Addis' concentration test
RENAL FUNCTION IN DIABETIC MALES			
Normal	121·82 ± 52·97	25·31 ± 5·649	1023·66 ± 4·643
Diabetic cases	133·22 ± 58·032	25·06 ± 4·683	1026·32 ± 7·898
Difference of means	11·40	0·25	2·66
Standard error of difference	2·5	0·84	0·91
't'	4·5*	0·3	2·9*
RENAL FUNCTION IN DIABETIC FEMALES			
Normal	119·74 ± 33·95	29·83 ± 4·671	1023·14 ± 4·595
Diabetic cases	125·165 ± 46·90	30·00 ± 7·226	1029·14 ± 9·507
Difference of means	5·425	0·17	6·00
Standard error of difference	2·86	1·4	1·42
't'	1·9	0·12	4·9*
EFFECT OF SEVERITY OF DIABETES ON RENAL FUNCTION			
Patients with Good Control			
Normal	121·82 ± 52·97	25·31 ± 5·649	1023·66 ± 4·643
Diabetic cases	109·45 ± 50·72	24·40 ± 3·312	1022·80 ± 8·673
Difference of means	12·37	0·91	0·86
Standard error of difference	2·62	0·87	1·04
't'	4·8†	1·04	0·82
Patients with Moderate Diabetes			
Normal	121·82 ± 52·97	25·31 ± 5·649	1023·66 ± 4·643
Diabetic cases	128·38 ± 40·716	26·87 ± 5·961	1027·71 ± 5·77
Difference of means	6·56	1·56	4·05
Standard error of difference	2·93	1·08	1·15
't'	2·2	1·04	3·5*
Patients with Severe Diabetes			
Normal	119·74 ± 33·95	29·83 ± 4·671	1023·14 ± 4·595
Diabetic cases	149·724 ± 45·354	29·80 ± 7·604	1029·60 ± 6·974
Difference of means	29·984	0·03	6·46
Standard error of difference	2·88	1·51	1·16
't'	10·4*	0·02	5·5*

TABLE 1—*Contd.*

EFFECT OF DURATION OF DIABETES ON RENAL FUNCTION

	Duration 0—5 years		Duration 5—10 years	Duration 10 years or more
	Urea clearance as percentage of average normal function		Urea clearance as percentage of average normal function	Urea clearance as percentage of average normal function
	Male	Female		
Normal	121·82±52·97	119·74±33·96	121·82±52·97	121·82±52·97
Diabetic cases	158·77±64·41	129·43±43·137	111·87±29·24	80·11±24·15
Difference of means	36·95	9·69	9·95	41·71
Standard error of difference	2·90	2·92	2·99	2·84
't'	12·7*	3·3*	3·3†	14·7†

EFFECT OF KETOSIS ON RENAL FUNCTION IN DIABETES

	Patients with ketosis		Patients without ketosis	
	Urea clearance as percentage of average normal function		Urea clearance as percentage of average normal function	
	Male	Female	Male	Female
Normal	121·82±52·97	119·74±33·95	121·82±52·97	119·74±33·95
Diabetic cases	191·02±37·343	131·60±40·104	119·46±50·06	120·34±96·55
Difference of means	69·20	11·86	2·36	0·60
Standard error of difference	3·4	3·4	2·53	4·11
't'	20·3*	3·5*	0·9	0·1

NOTE :—Values of 't' marked with † are statistically significant showing thereby that kidneys in diabetic cases are *hypofunctioning* as compared with normal cases.
Values of 't' marked with * are statistically significant showing thereby that kidneys in diabetic cases are *hyperfunctioning* as compared with normal cases.

Out of 40 diabetic cases studied 13 cases (32·5 per cent) had urea clearance values below 100 per cent. However the results of blood urea estimation, and Addis' concentration tests were within the normal range in most of the cases. In all 19 cases had urea clearance values below the average figure obtained in normal cases.

5 out of 40 cases studied were passing albumen in the urine at the time of investigation, ranging from 0·5 per cent to 3·0 per cent.

In all cases with albuminuria, except one case, the result of urea clearance tests were significantly low as compared with the average normal figure. Only in one case (Case 2) was blood pressure high and fundus in this case showed typical changes of diabetic retinopathy. This shows that hypertension is not invariably present in diabetic cases with albuminuria and impaired renal function. In two out of four cases with impaired renal function, the duration of diabetes was 12 and 22 years, while in the other two it was as short as 3 years and 5/12 year ; may be, the diagnosis of diabetes was missed in its early stage in the latter cases. Still it appears that there is no definite correlation between the degree of impaired renal function and the duration of the disease.

Seven out of 40 diabetic cases were showing mild degree of hypertension. In all these cases the results of urea clearance tests were below the average normal. The results along with the duration of diabetes are given in Table 2.

Case	Age/sex	Duration of diabetes (years)	Fasting blood sugar mg.%	Blood pressure S/D mm. Hg	Urea clearance as percentage of average normal function
K.L.	69 M	22	174	205/90	31·68
B.S.	50 M	2	100	160/90	101·88
V.D.	58 M	18	100	165/100	98·85
N.S.	56 M	20	200	160/75	92·16
N.S.	75 M	9	210	170/90	82·08
K.R.	56 M	10	125	170/82	108·00
A.S.	60 M	6	288	165/100	118·08

All the 7 cases in the above group were aged above 50 and the duration of diabetes was more than 6 years in all except in Case 2. Diabetes as seen by the fasting blood sugar lever was mild in all except in Case 7. This shows that in a diabetic patient above 50 years, with mild diabetes of more than 6 years' duration and with mild degree of hypertension, renal function as judged by urea clearance test may be slightly impaired.

Discussion

Gould *et al* (1948) studied 24 cases, with diabetes of shorter or longer duration, showing varying degrees of hypertension, arteriosclerosis, retinopathy, albuminuria and uraemia, and observed the relative incidence of various manifestations of renal diseases in diabetes. Evidence of renal failure, as shown by urea clearance test and raised blood urea, was observed in a group of 12 cases—all above 50 years of age, with severe degree of hypertension and having diabetes of long duration (average of 10 years). On postmortem study of this group of cases, they concluded that diabetic glomerulosclerosis is incidental and not the primary cause of renal failure.

Mann *et al* (1949) carried out clinical studies in diabetic patients to find out the incidence of associated renal disease. Out of 1708 patients, 83 patients had significant renal disease. This series included only those cases who had the onset of diabetes before the age of 30 years, with moderately severe diabetes, which was not regularly controlled by insulin.

In our study of 40 cases of diabetes, the results were similar to those of other workers (Gould *et al*, 1848 ; Balow, 1939 ; Goodof, 1945 ; Rifkin *et al*, 1948 ; Mann *et al*, 1949) in cases of diabetes of long duration, but in diabetics with shorter duration (less than 6 years) and below 50 years of age, the renal function was normal. It is thus seen that the impaired renal function correlates well with the duration of diabetes.

Albuminuria was present in 5 cases, and out of these, 4 cases showed impairment of renal function.

Hypertension was present in 7 cases, out of 40 cases, and the results of urea clearance test in these cases were studied separately. All these cases were above 50 years of age and in all, except one, the duration of diabetes was more than 6 years and diabetes was of a mild degree. All the cases had diminished urea clearance, as compared to the normal cases, indicating some impairment of renal function.

Summary

40 cases of diabetes and 20 normal persons were investigated for renal function. It was found that

1. Renal function was normal in diabetics below 50 years of age and with diabetes of shorter duration.

2. Gradual renal failure was observed in cases of mild to moderate diabetes of long duration who were above 50 years of age. The impaired renal function correlated well with the duration of diabetes.

3. Albuminuria, with or without hypertension, was present more often in patients above 50 years of age who had diabetes of long duration.

References

Barlow, K. E.—*Brit. M. J.*, **2** : 765, 1939.

Goodof, I. T.—*Ann. Int. Med.* **22** : 373, 1945.

Gould, W. R., Stalker, A. L. and Lyall, A.—*Brit. M. J.*, **2** : 194, 1948.

Mann, G. V., Gardener, C. and Root, H. F.—*Am. J. Med.*, **7** : 3, 1949.

Rabinowitch, I. M.—*Canadian M. A. J.*, **58** : 547, 1948.

Rifkin, H. and others—*Medicine*, **27** : 429, 1948.

STUDIES ON ANAEMIA IN LIVER DAMAGE

A Preliminary Report

P. S. VASAVADA, M.D.*

M. M. ARORA, M.D.**

AND

D. P. MUKERJI, M.B., B.S.***

K. B. Illava Haematology Department, Department of Medicine, M. G. M. Medical College, Indore

Anaemia is common in chronic parenchymal damage of the liver (Wintrobe, 1936). Macrocytic anaemia has been observed in cases suffering from portal cirrhosis (Higgins and Stasney, 1955) and Banti's disease (Thompson, 1940). In experimental portal cirrhosis anaemia has consistently been produced (Himsworth, 1950). Ample amounts of haemopoietic factor has, however, been detected in the liver in macrocytic anaemia by some workers

* Medical Officer, In-charge K. B. Illava Haematology Department, Department of Medicine.

** Assistant Professor of Pathology, M. G. M. Medical College, Indore.

*** Assistant Surgeon, Haematology Department, Department of Medicine, M. G. M. Medical College, Indore.

(Schiff *et al*, 1938). Some workers (Glynn *et al*, 1945) believe that this type of anaemia is the result of methionine deficiency and have put forward experimental evidence in favour of such a suggestion.

Himsworth (1950) had stated that two types of anaemia occur in liver diseases—the microcytic or normocytic type responding very slowly to iron and probably consequent to a loss of appetite in some cases, and the macrocytic type, resembling the pernicious anaemia, which requires liver therapy. Some of these anaemias have been reported to be resistant to liver injections also (Glynn *et al*, 1945).

Nutritional deficiencies, malaria, amoebiasis, tuberculosis, kala-azar and chronic bowel disorders are now well known to produce liver damage. These diseases are quite prevalent in our country. In addition, portal cirrhosis and infective hepatitis are also not rare. Many of these patients are anaemic when first observed in the hospital. One of the objectives of the present study was to find out the type and extent of anaemia in all such cases.

An attempt has been made during the present investigations to find out if there are differences in the type and degree of anaemias in cases of (i) primary liver disease and (ii) those associated with diseases known to produce patchy liver damage.

Methods and Materials

Thymol turbidity and flocculation, colloidal gold flocculation, cephalin cholesterol flocculation, prothrombin response to vitamin K, urine urobilinogen estimation, icteric index and van den Bergh's test were selected for liver function study.

The present investigations include a detailed clinical examination, and a study of haemogram and myelogram in each case following the standards and techniques as described by Wintrobe (1952). The patients selected for the study were either suffering from a primary liver disease or had liver enlargement associated with diseases known to produce liver damage.

So far a total of 70 cases, attending the K.B. Illava Haematology Department and the K. E. Hospital, Indore, have been investigated. They include cases of portal cirrhosis, infective hepatitis, amoebic hepatitis, chronic malaria with hepatomegaly, tuberculosis with liver enlargement, chronic bowel disease with liver enlargement—cases with non-specific diarrhoea, leukamia with liver enlargement, and secondary carcinoma of the liver with enlargement.

The paper is a preliminary report on the work done so far.

Results

23 cases of portal cirrhosis, 11 cases of amoebic hepatitis, 6 cases of infective hepatitis, 10 cases of chronic malaria with hepatomegaly, 7 cases of tuberculosis with liver enlargement, and 6 cases of chronic bowel disorders with liver enlargement and 7 cases with leukaemia or secondary carcinomatous involvement of the liver were selected for this report.

The liver was enlarged in 27 out of the 40 cases of primary liver diseases, and in all the 30 cases consisting of malaria, tuberculosis, chronic bowel diseases, leukaemias and cancer of the liver.

48 males and 22 females were investigated during this period. One third of the cases were below 30 years, while the remaining were above 30 years. Twothirds of the cases were vegetarians.

Table 1—Showing the Diagnosis, Age, Sex, Dietetic Habits, Duration of Illness and Liver Enlargement in 70 Cases of Liver and Allied Disorders with Anaemia.

Clinical diagnosis	No. of cases	Age in years			Sex		Diet		Duration of illness (in months)			Liver enlargement
		15-30	31-45	46-60	Male	Female	Veg.	Mixed	<1	1-6	>6	
Portal cirrhosis ...	23	7	12	4	18	5	18	5	0	18	5	12
Amoebic hepatitis ...	11	4	5	2	8	3	6	5	1	10	0	10
Infective hepatitis ...	6	4	1	1	4	2	2	4	3	3	0	5
Chronic malaria ...	10	5	4	1	7	3	6	4	0	9	1	10
Tuberculosis ...	7	1	2	4	4	3	7	0	0	6	1	7
Chronic bowel diseases ...	6	1	4	1	3	3	4	2	0	6	0	6
Leukaemia or secondary carcinoma ...	7	1	3	3	4	3	5	2	1	3	3	7

Anorexia, discomfort after meals, irregular bowel habits, and pain and tenderness in the liver region were the common symptoms, being present singly or together in 75 per cent of the cases studied. The quality of their daily diet was found to be much below average, as judged from their dietetic histories.

It will be seen from Table 2 that out of the 40 cases with primary parenchymatous lesions of of the liver (portal cirrhosis, infective hepatitis, amoebic hepatitis) only 21 had macrocytic anaemia, the remaining had either a normocytic or microcytic anaemia. All except six among these 40 cases had hypochromia.

Amongst the 30 cases of hepatomegaly with chronic malaria, tuberculosis, chronic bowel disease, secondary cancer and leukaemia (all of which are now known to produce some amount of liver damage), it was observed that 15 had macrocytic type of anaemia. Except for three all had associated hypochromia also.

Table 3 shows the result of our attempt to correlate the duration of liver disease as also the degree of liver dysfunction with the degree of macrocytosis.

In 26 out of the 36 cases with slight macrocytosis, the duration of illness was 1 to 6 months. 18 of these 26 cases showed varying degrees of liver dysfunction as well. In 8 cases the result

TABLE 2—SHOWING THE ANALYSIS OF THE CASES WITH THE TYPES OF ANAEMIAS

Clinical diagnosis	Types of Anaemias					
	Hypochromic			Normochromic		
	Macrocytic	Normocytic	Microcytic	Macrocytic	Normocytic	Microcytic
PRIMARY LIVER DISEASES						
Portal cirrhosis ... (23 cases)	9	7	3	2	2	0
Infective hepatitis ... (6 cases)	2	2	0	2	0	0
Amoebic hepatitis ... (11 cases)	6	4	1	0	0	0
DISEASES ASSOCIATED WITH HEPATOMEGALY						
Chronic malaria ... (10 cases)	3	3	3	1	0	0
Tuberculosis ... (7 cases)	4	1	1	0	1	0
Chronic bowel disease ... (6 cases)	3	1	1	0	1	0
Leukaemia or carcinoma ... (7 cases)	4	2	1	0	0	0

TABLE 3—CORRELATION OF THE DURATION OF LIVER DISEASE AND THE DEGREE OF LIVER DYSFUNCTION WITH THE DEGREE OF MACROCYTOSIS

	Normal	Mild to moderate derangement	Marked derangement	Total	Illness 1—6 months	Illness above 6 months
Slight macrocytosis (M.C.V. 94-110 cμ.)	8	18	8	34	26	8
Moderate macrocytosis (M.C.V. above 110 cμ.)	0	2	0	2	0	2
Illness between 1-6 months ...	8	16	2	26	—	—
Illness above 6 months	0	4	6	10	—	—

of liver function tests was within normal limits and their duration of illness was from 1 to 6 months. All of these 8 cases showed slight degree of macrocytosis. The remaining 2 cases had more pronounced macrocytosis, moderate derangement of liver function and the duration was over 6 months.

This earlier onset of macrocytosis in our series, in hepatic or allied disorders of short duration, is in contrast to Wintrobe's (1951) observations.

Macrocytic anaemia of the Addison's type was not observed in any case. An attempt was made to study the existence of any differences in the degree of fall of total red cell count and haemoglobin percentage amongst the two broad groups of cases studied (those with primary liver diseases and those with diseases now known to produce patchy liver damage). No striking differences were noted either in the degree of fall of red cells and haemoglobin percentages or in the types of anaemia. Correlation was also not observed between the particular types of liver disorder and particular types of anaemia.

The results of the total red cell counts in million and the haemoglobin in g. per cent are given in the Figs. 1 and 2.

The percentage of distribution of the slight, moderate and severe varieties of anaemias, amongst the two broad groups of cases studied, was observed to be strikingly similar, hence for presentation of those data the results of the two broad groups of cases (those with primary liver diseases and those with diseases known to produce patchy liver damage) have been combined.

Severe anaemia (red cells below 1·5 million per c.mm.) was noted in 4 out of the 70 cases studied so far. 25 cases out of 70, had moderate degree of anaemia (red cell count between 1·5 and 3 million per c.mm.) thus constituting 35·7 per cent of the total cases. The remaining 41 cases (58·6 per cent) had only a slight degree of anaemia (red cell count over 3 million but below the average normal).

Bone marrow studies could be carried out in 52 cases only. In the remaining 18 cases the marrow was either diluted or the patient did not allow sternal puncture. In 50 out of the 52 cases, the bone marrow reaction was normoblastic irrespective of the type of anaemia. In cases with increase in the severity of anaemia the percentage of normoblasts increased in the marrow. No definite correlation existed between the type and extent of liver disease and the marrow response. In the remaining two cases the laboratory data suggested a tropical macrocytic anaemia with a megaloblastic marrow. In one of the two megaloblastic marrow, qualitative changes in the granular series were observed like the giant multisegmented polymorphs. No changes in the megakaryocytes could be detected.

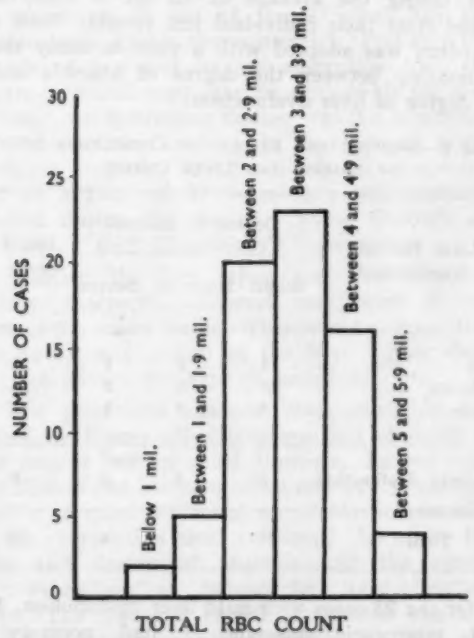

FIG. 1—SHOWING THE TOTAL RED CELL COUNTS IN 70 CASES OF LIVER AND ALLIED DISEASES STUDIED.

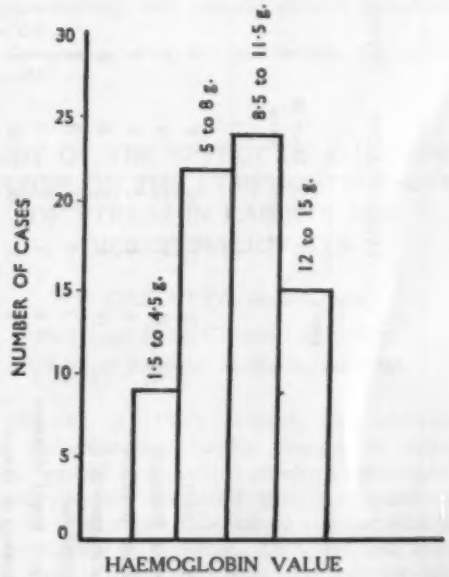

FIG. 2—SHOWING THE HAEMOGLOBIN IN G. IN 70 CASES OF LIVER AND ALLIED DISORDERS STUDIED.

TABLE 4—SHOWING THE ANALYSIS OF THE RESULTS OF VARIOUS LIVER FUNCTION TESTS

Clinical diagnosis	No. of cases	Thymol turbidity			Thymol flocculation			Colloidal gold flocculation			Cephalin-cholesterol flocculation			Urine urobilinogen + in dilution		Icteric index in units		
		1-3 units	1-10 units	Over 10 units	0	upto ++	+++	0	upto ++	+++	0	upto ++	+++	0-1/30	Above 1/30	Above 15	5-15	Below 5
Cirrhosis liver ...	23	13	10	0	3	12	8	7	4	12	0	6	17	10	13	10	11	2
Amoebic hepatitis ...	11	9	2	0	7	1	3	5	2	4	0	10	1	4	7	9	1	1
Infective hepatitis ...	6	4	2	0	3	2	1	3	0	3	0	3	3	3	3	0	1	5
Chronic malaria	10	8	2	0	6	1	3	3	5	2	0	8	2	4	6	8	2	0
Tuberculosis	7	4	3	0	3	0	4	2	4	1	0	2	5	3	4	6	1	0
Chronic bowel diseases ...	6	5	1	0	4	0	2	3	0	3	0	4	2	2	4	5	1	0
Leukaemia or cancer ...	7	7	0	0	2	4	1	1	4	2	0	6	1	4	3	6	1	0

Liver function studies were carried out in all cases. Eight liver function tests were done in each case.

TABLE 5—SHOWING THE RESULTS OF PROTHROMBIN LEVEL STUDIES BEFORE AND AFTER VITAMIN K

Liver and allied disorders / Time in seconds	Before vit. K			After vit. K		
	12-25	26-50	Over 50	12-25	26-50	Over 50
Cirrhosis of liver	3	11	9	10	8	5
Infective hepatitis ...	4	2	Nil	5	1	Nil
Amoebic hepatitis ...	6	5	,,	10	1	,,
Chronic malaria ...	5	4	1	7	3	,,
Tuberculosis ...	3	4	Nil	4	3	,,
Chronic bowel trouble	2	3	1	4	2	,,
Leukaemia or cancer	2	3	2	6	Nil	1

(Normal range of prothrombin time : 18 seconds).

Attempts were made to find out the correlation between individual liver function test and the degree and pattern of disease. The results did not reveal definite correlation between any individual liver function test and the degree and variety of anaemia. Hence these results were analysed and grouped under three broad headings, viz., slight, moderate and severe liver damage after taking the average of all the 8 tests, as judged from their individual test results. Such a procedure was adopted with a view to study the relationship between the degree of anaemia and the degree of liver dysfunction.

TABLE 6—SHOWING THE RESULTS OF CORRELATIVE STUDY OF ANAEMIA AND LIVER DAMAGE

Liver function derangement	Degree of anaemia			No. of cases
	Slight	Moderate	Severe	
Mild	14	8	1	23
Moderate	16	8	2	26
Severe	8	6	1	15
No liver dysfunction	3	3	0	6
Total ...	41	25	4	70

Of the 23 cases with mild liver dysfunction, 12 had macrocytic anaemia, 7 had normocytic anaemia and the remaining 4 had microcytic

anaemia. Amongst the 26 cases with moderate liver dysfunction, macrocytic anaemia was observed in 10 cases, normocytic anaemia was noted in 12 cases and microcytic anaemia was found in 4 cases. 15 cases revealed a severe liver dysfunction—9 out of these 15 cases had macrocytic anaemia. 4 of these cases had normocytic anaemia and 2 had microcytic anaemia. 5 out of the 6 cases, with normal liver function test results, had macrocytic anaemia.

It would be seen from this study that no correlation existed between the extent of severity of liver damage and extent of severity of anaemia. The nature of anaemia was also not found to bear any relationship with the extent of severity of liver dysfunction.

Discussion

The view that liver damage occurs in conditions of malnutrition is being widely accepted now. Majority of the population in our country is consuming an ill-balanced diet which is poor in first class proteins. Diseases like malaria, tuberculosis and amoebiasis, which are not uncommon in our country, also contribute to enhance the state of malnutrition. A higher incidence of liver damage is to be thus expected.

It would be seen from the results of this study that there was no set pattern of anaemia in any particular type of liver damage (whether primary or associated) 61 out of the 70 cases had low haemoglobin figures (hypochromia). Probably low supply of iron and its low absorption from the gastro-intestinal tract may be responsible for such a state. An interesting finding was the occurrence of hypochromic anaemia in 3 cases of portal cirrhosis (without any haemorrhagic symptoms) out of a total of 23 cases of portal cirrhosis, studied during this period. These findings are in keeping with Himsworth's observations.

Whether the liver injury was generalised or patchy, macrocytic anaemia constituted 50 per cent of the entire series. This would suggest that the extent and nature of the liver injury alone did not govern the type of anaemia.

The pernicious anaemia like picture as described by Himsworth (1950) was not observed in any case of liver or allied disorders. In two cases the clinical and haematological and gastric analysis studies revealed a tropical megaloblastic anaemia.

No correlation was observed between the type and degree of anaemia and the extent of dysfunction as judged by liver function tests. The type and extent of anaemia was also found to have no constant relationship with any particular liver disease.

Summary

Haematological study and liver function tests in 70 cases of hepatomegaly did not show any set pattern of anaemia attributable to liver changes. Fifty per cent of the cases showed macrocytic anaemia irrespective of the type of liver injury. No correlation was observed between the degree and variety of anaemia and type and extent of derangement in the functions of the liver.

Acknowledgments

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References

Glynn, L. R., Himsworth, H. P. and Neuberger, A.—*Brit. J. Exper. Path.*, **26** : 325, 1945.

Higgins, G. M. and Stasney, J.—*Proc. Staff Meet. Mayo Clin.*, **10** : 429, 1935.

Himsworth, H. P.—Liver and its disease, Harvard University Press, Cambridge, Mass., p. 142, 1950.

Schiff, L., Rich, M. L. and Simon, S. D.—*Am. J. Med.*, **196** : 313, 1938.

Thompson, W. P.—*Arch. Int. Med.*, **64** : 255, 1940.

Wintrobe, M. M.—*Ibid.*, **57** : 289, 1936.

Ibid—Haematology, 1951, Lea and Febiger, Philadelphia, p. 300.

Ibid—Haematology, 1952, Lea and Febiger, Philadelphia, p. 484.

STUDY OF THE EFFECT OF CHLORPROMAZINE ON THE LYMPHOCYTOPENIA OF STRESS IN RABBITS AND DIENCEPHALIC CATS

S. R. DASGUPTA, M.B.B.S. (RGN.),

Provincial Drug Control Laboratory,
School of Tropical Medicine, Calcutta.

Colfer *et al* (1950) showed that emotional stress (subcutaneous faradic shocks) in normal rabbits resulted in a marked absolute lymphopenia. Lymphocytopenia produced thus was considered to be the most rapid indicator of anterior pituitary activity known at the time. De Groot and Harris (1950) further concluded that the anterior pituitary secretion producing the lymphopenia, was

under neural control *via* the hypothalamus and the hypophysial portal vessel. Chlorpromazine has been shown to specifically inhibit the hypothalamic vasomotor reflex (Dasgupta and Werner, 1954) and "sham rage" in cats (Dasgupta *et al*, 1954). It was considered, therefore, that chlorpromazine might be able to prevent the lymphocytopenia of stress, an action which might also be interpreted as an inhibition of hypothalamic activity, and the present work was, therefore, undertaken.

Method

The method of applying the stress was that of O'Connor and Varney as adapted by Colfer *et al* (1950). Rabbits weighing from 1·5 to 2·5 kg. were used. The rabbit was left undisturbed overnight and tied to the working table 1 to 2 hours before the stimulation. The emotional stress stimulus was administered by passing a faradic current from an induction coil, through two needle electrodes inserted subcutaneously over the lumbar vertebrae. The rabbit was stimulated for 5 minutes (30 seconds on—30 seconds off). The strength of the stimulus used was that which produced signs of fright on the part of the animal, such as crying and polypnoea. Blood samples were drawn from the ear vein into oxalated containers before the insertion of the electrodes and three hours after the faradic stimulation. After drawing the last sample of blood, the rabbit was released and given food. After performing two such control experiments on each rabbit, on the third occasion the animal was given an intraperitoneal injection of 10-25 mg./kg. of chlorpromazine immediately after the first sample of blood had been collected. After an interval of 10 to 15 minutes, when the effect of the drug became evident, the animal was stimulated for 5 minutes as described above. The experiment with the drug was repeated on the next day. The results of one set of experiments are given in Table 1.

Table 1—Showing Variations in Blood Count in Relation to Stimulation without and with Drug

Rabbit No.	Dose in kg./mg.	W.B.C.	Total lymphocytes	Percentage of lymphocytes	Percentage of neutrophils
		Before stimulation and without drug			
1	...	8,500	5,525	65	31
2	...	8,100	4,050	50	48
3	...	10,100	6,060	60	64
4	...	10,350	5,615	54	40
5	...	9,840	6,199	63	35
6	...	8,250	5,229	63	35
		3 hours after stimulation but without premedication			
1	...	18,450	4,070	22	67
2	...	12,600	3,150	25	67
3	...	18,250	3,640	20	76
4	...	16,300	3,912	24	72
5	...	18,415	4,784	26	73
6	...	15,000	2,700	18	76
		After chlorpromazine and 3 hours after faradic stimulation*			
1	10	18,200	3,704	22	78
2	15	12,405	2,750	22	63
3	15	16,400	2,952	18	78
4	20	20,100	2,412	12	84
5	20	17,562	4,400	25	74
6	25	13,700	2,740	20	72

* The faradic stimulus was given half to one hour after the intraperitoneal administration of the drug.

It will be seen from the results that the total W.B.C. count, together with the differential counts of lymphocytes and neutrophils before stimulation, were almost similar to those obtained by Dasgupta *et al* (1954) for normal rabbits. The total W.B.C. count varied from 8,100 to 10,350 and the total lymphocyte count from 4,050 to 6,199 per cmm. After faradic stimulation there was a steep rise in the total W.B.C. count, the neutrophils increasing greatly whereas the lymphocytes registered a marked fall, exhibiting both relative and absolute lymphopenia. The total W.B.C. count rose to between 12,600 and 18,450 while the lymphocyte count fell to 2,700 to 4,784. The counts after the drug and stimulus were of a similar nature, the total count being from 12,405 to 20,100 and the lymphocyte count from 2,740 to 4,400. Therefore premedication with chlorpromazine, even in as high a dose as 25 mg./kg. could not protect the animal from the stress and an absolute lymphopenia was the result, with accompanied rise in total and neutrophil leucocytes.

Dasgupta and Werner (1954), however, pointed out that the effect of chlorpromazine on the hypothalamus became evident in decorticated animals or after intracisternal administration only. Therefore, the study of the effect of chlorpromazine on lymphocytopenia of stress on the *excitory* background of "sham rage" was undertaken.

Methods

Both male and female cats were used.

For normal blood counts, blood was collected in oxalated tubes from the femoral vein exposed under local anaesthesia.

A similar count was taken in another batch of cats who had earlier received one or more doses

of chlorpromazine given intravenously/intraperitoneally.

Decortication, with a view to produce diencephalic animals that would exhibit "sham rage", was performed under ether anaesthesia (Bard, 1928).

In one batch of animals, a blood count was taken about 3 hours after decortication and before the administration of chlorpromazine.

Chlorpromazine was then injected intraperitoneally and another count taken when the animals were under the effect of the drug.

Finally, a count was taken in some of the cats which were earlier given the drug, partly intravenously and partly intraperitoneally at least one hour before the operation (i.e. cats belonging to group B).

The drug was given intravenously again within 15 minutes of the operation and repeated hourly for the next four hours, when the blood sample was collected.

Thus blood was collected (A) before the administration of the drug, (B) after the administration of the drug but before decortication, (C) after decortication and without the drug, (D) after the drug had been administered after decortication and (E) drug administered before and after decortication.

Only the W.B.C.'s. were counted, total and differential. The brain was examined macroscopically in all the decorticated cats to ensure that proper diencephalic animals were prepared.

Results

All the cats, with the exception of Nos. 4 and 7, exhibited marked "sham rage" following the decortication operation. The "sham rage" responses to the usual stimuli in Nos. 4 and 7 were rather feeble in comparison with the rest of the animals in this series. One cat (No. 6) died after the decortication operation. The visible response of the animals following the administration of the drug before and after decortication, was of the usual nature. The results are summarised in Tables 2 and 3.

Table 2—Showing Variation in Blood Count *Before* Decortication Without and With Chlorpromazine

Serial No. of cat	Dose in mg./kg.	Total W.B.C.	Total lymphocytes	Percentage lymphocytes	Percentage neutrophils	Remarks
			(A) BEFORE ADMINISTRATION OF DRUG			
1	...	17,500	7,700	44	52	...
2	...	12,300	3,198	26	73	...
			(B) AFTER ADMINISTRATION OF DRUG			
4	10	18,300	5,037	29	68	Drug given intraperitoneally.
5	15	19,400	6,028	32	63	Drug given intraperitoneally, 75 minutes before decortication.
6	15	15,000	4,500	30	65	Died during decortication operation.
7	15	16,200	4,374	27	70	Half the drug given intravenously and balance intraperitoneally one hour after decortication.
8	20	19,100	5,348	28	68	
9	25	15,700	5,495	35	61	

Table 3—Showing Variation in Blood Count *After* Decortication Without and With Drug

Serial No. of cat	Dose in mg./kg.	Total W.B.C.	Total lymphocytes	Percentage lymphocytes	Percentage neutrophils	Remarks
			(C) BEFORE ADMINISTRATION OF DRUG			
1	...	21,250	1,074	8	90	...
3	...	23,600	1,652	7	91	...
			(D) AFTER ADMINISTRATION OF DRUG			
1	0·5	21,800	1,962	9	68	Blood collected 3 hours after decortication—drug given intravenously.
3	1·5	21,200	424	2	93	Blood collected 4 hours after decortication—drug given intravenously.
			(E) DRUG ADMINISTERED BEFORE AND AFTER DECORTICATION			
4	1 of 1	36,700	2,202	6	93	Drug given intravenously. Blood collected approximately 4 hours after decortication.
5	3 of 2	25,600	512	2	96	
7	4 of 1	28,550	856	3	96·5	
8	4 of 1·5	26,450	792	3	96	
9	4 of 1·5	28,220	1,128	4	94	

It will be seen from Tables 2 and 3 that (1) the normal blood count (W.B.C.) compared fairly with the figures obtained by earlier workers (Valentine *et al*, 1948) ; (2) the prior administration of chlorpromazine did not produce any marked effect and (3) decortication by itself brought about a marked change in the blood picture. Not only was there a definite increase in the total W.B.C. count, but there was also a spectacular change in the differential count, being a marked rise in the number of neutrophil leucocytes. The lymphocytes also recorded a definite fall. The lymphocytopenia was both relative and absolute. Neither the prior administration of the drug nor its repeated administration before and after the decortication operation, made the slightest impression on this lymphocytopenia.

Discussion

The common finding in both series of experiments were: (1) a rise in total W.B.C. ; (2) a rise in neutrophils and (3) a fall in lymphocytes after an interval of stress. The lymphocytopenia was both relative and absolute.

It is well-known that emotional stress produces a lymphocytopenia in mice and rats (Harlow and Selye, 1937 ; Dougherty and White, 1944). Emotional stress has been reported to produce relative and absolute lymphocytopenia in rabbits with an associated granulocytosis (Colfer *et al*, 1950).

The lymphocytopenia that follows stress, emotional or traumatic, is a part of the pattern of the alarm reaction of Selye who records that there is a pronounced increase in the total white cell count due to neutrophilic leucocytosis with eosinopenia and relative and even absolute lymphopenia. The lymphocytopenia, according to Selye, is presumably elicited through the same pituitary adrenal mechanism that is responsible for the involution of the lymphocytic tissue (Selye, 1950). Adrenalectomy tends to inhibit the lymphopenia and eosinopenia of stress. Adrenaline raises the lymphocyte count, corticotrophins or glucocorticoids, on the other hand, can cause lymphopenia and eosinopenia, in animals and man, even in the absence of stress (Selye, 1950). According to Dougherty and White (1944), the injection of extracts of the adrenal cortex produces a similar lymphopenia whereas an injection of ACTH in adrenalectomised animals does not produce any such effect. In animals with an intact pituitary adrenal mechanism ACTH, therefore, is responsible for producing lymphocytopenia. The release of ACTH in conditions of stress is under the control of the hypothalamus. There is now a general agreement that the central nervous system, or more particularly, the hypothalamus, is capable of stimulating the anterior pituitary gland to secrete ACTH whenever the individual is exposed to a stressing agent. This ACTH by its effect on the adrenal cortical secretion, brings about the adaptation of the body (general adaptation syndrome) (Anand and Dua, 1955).

The findings of the present series of experiments show that chlorpromazine is not capable of protecting the animals from the effects of emotional and traumatic stress. It thus adds evidence in support of the earlier findings of Holzbauer and Vogt (1954) who reported that chlorpromazine failed to prevent the release of ACTH in operative shock in rats, and also the conclusions reached by Georges and Mahn (1953), that the administration to rats of a "lytic cocktail" containing approximately 1 mg./kg. chlorpromazine, did not prevent the release of ACTH in operative stress, provided body temperature was above 27°C and thus controverting an earlier finding of Aron *et al* (1953) who claimed that the drug caused the equivalent of a hypophysectomy by preventing the release of ACTH.

The hypothalamic region involved in the secretion of ACTH from the anterior pituitary gland is, according to the latest work of Anand and Dua (1955), situated in the medial part of the anterior and middle hypothalamic regions. This is in support of the contention that in its action on the hypothalamus, chlorpromazine has, so far, been found to be effective on the caudal hypothalamus only (Dasgupta, 1955).

Summary

There is now general agreement that the central nervous system, particularly the hypothalamus, is capable of stimulating the anterior pituitary gland to secrete ACTH whenever the individual is exposed to a stressing agent. Emotional and operative stress result in relative or even absolute lymphocytopenia.

Lymphocytopenia following emotional stress (subcutaneous faradic stimulation) or operative stress (the excitory background of 'sham rage' in diencephalic cats) has been used to study whether or not chlorpromazine could prevent the lymphopenia of stress.

The results show that chlorpromazine given before the stimulation in rabbits, and before and after decortication in cats, failed to prevent the lymphopenia.

Acknowledgment

I wish to express my thanks to Shree P. Banerjee for his assistance during the experimental work.

REFERENCES

ANAND, B. K. AND DUA, S.—*J. Physiol.*, **127** : 153, 1955.
ARON, R., CHAMBON, Y. AND VOISIN, A.—*Bull. Acad. nat. med.*, **137** : 417, 1953.
BARD, P.—*Am. J. Physiol.*, **84** : 490, 1928.
COLFER, H. F., DE GROOT, J. AND MARRIS, G. W.—*J. Physiol.*, **111** : 328, 1950.
DASGUPTA, S. R.—Proceedings of the Indian Science Congress, 1955.
DASGUPTA, S. R. AND WERNER, G.—*Brit. J. Pharmacol.*, **9** : 389, 1954.
DASGUPTA, S. R., MUKHERJEE, K. L. AND WERNER, G.—*Arch. Int. Pharmacodyn.*, **97** : 149, 1954.
DE GROOT, J. AND HARRIS, G. W.—*J. Physiol.*, **111** : 335, 1950.
DOUGHERTY, T. F. AND WHITE, A.—*Endocrinol.*, **35** : 1, 1944.
GEORGES, G. AND KAHN, J.—*Anest. et Analg.*, **10** : 409, 1953.
HARLOW, C. M. AND SELYE, H.—*Proc. Soc. Exper. Biol. & Med.*, **36** : 141, 1937.
HOLZBAUER, M. AND VOGT, M.—*Brit. J. Pharmacol.*, **9** : 402, 1954.
SELYE, H.—Text Book of Endocrinology, 1950, Acta Endocrinologica, Inc., Montreal, Canada.
VALENTINE, W. N., CRADOCK, E. G. JR. AND LAWRENCE, J. S.—*Blood*, **3** : 729, 1948.

CASE NOTES

CHROMOBLASTOMYCOSIS IN INDIA

L. M. KAKOTI, M.B.B.S. (PATNA)
AND
N. C. DEY, B.SC., M.B.B.S.(CAL.), D.BACT. (MANCH.)
Department of Pathology,
Assam Medical College, Dibrugarh

Chromoblastomycosis is a disease limited to the human race only. There has been no report of spontaneous infection in animals. The organisms are naturally present in soil, vegetations and decaying wood. Conant and Martin (1937) found that strains isolated from wood were morphologically and serologically identical with fungi producing chromoblastomycosis in man. The disease is common in warm climate and amongst males between 30 and 50 years of age and in almost all cases there is a history of trauma from a thorn, wood splinter or farm implements. These traumata are usually on the exposed parts of the body and so also the lesions of chromoblastomycosis. The common sites of the lesions are foot, leg, hand, forearm, thigh and the buttock. Other superficial skin surfaces are rarely involved. The disease remains limited to the skin, rarely affecting the regional lymph nodes. It spreads by continuity and contiguity or by autoinoculation.

This disease has been reported from Cuba, Puerto Rico, South America and U.S.A. Only a few cases have been reported from Africa, Australia, Russia, Canada, Japan, Java and Sumatra. No case has yet been reported from India.

In the case under report the lesion was found to involve the vulva.

CASE REPORT

A female patient named Tara, aged 34 years, Hindu, married and mother of four children, complained of nodular growths over the vulva with slight discomfort and heaviness and itching over the part, for about two years.

Her occupation was agriculture and housekeeping.

On examination the patient was of average build without any gross avitaminosis or anaemia.

Verrucous lesions over both the labia majora, extending a little over the neighbouring skin were present. The vulva was oedematous. The skin over it was thick, firm and elephantoid. The nodules were small, discrete and firm showing thin scales with desquamation. It was slightly violaceous in colour. Maceration of an appreciable character was present only on the opposing surfaces of the labia majora (Fig. 1, *vide* Plate). Inguinal lymph nodes of both the sides were enlarged, discrete and firm. Fluctuation, tenderness or inflammation of the overlying skin was absent. There was slight whitish discharge per vagina. No lesions over the vaginal canal or the cervix could be seen.

LABORATORY INVESTIGATIONS :

R.B.C.—4·1 million/c.mm., haemoglobin—12·8 g. per cent., W.B.C.—6,800/c.mm., polymorphs 63 per cent, lymphocytes 26 per cent, monocytes 6 per cent and eosinophils 5 per cent.

Kahn test and W.R. were negative.

Stools showed presence of roundworm ova. Urine was normal.

EXAMINATION OF THE LESION :

The material was obtained by slitting open one of the nodules and scraping the cut surfaces. It was examined under coverslip preparation treated with 10 per cent potassium hydroxide solution. Material from the enlarged inguinal lymph node obtained in a biopsy was similarly treated and both the preparations revealed spherical, dark-brown, septate bodies measuring about 15 μ in diameter (Figs. 2 & 3, *vide* Plate).

Culture—Bits of tissues from the nodules as well as from the inguinal lymph nodes were inoculated into Sabouraud's glucose agar with and without gentian violet 1 : 400,000 and also in blood agar tubes. The tubes were incubated at room temperature. The blood agar showed gross contamination. Growth was visible three weeks after

inoculation in the Sabouraud's medium, inoculated with materials from the nodules as well as in those inoculated with materials from the lymph nodes. The growth at first appeared as a black dot, resembling a growth of contaminating black yeast, gradually extending peripherally to form round, raised, convex colonies covered by short, black duvet and attained the size of about 1½" in diameter in 90 days. The centre of the colony was raised, convex and formed a knob. Concentric rings were present at the periphery. The black colour of the colony did not diffuse at all into the medium. Subculture in nutrient broth showed intense black growth which floated on the surface, eventually falling to the bottom. The colour of the broth was not altered.

Microculture in semisolid Sabouraud's glucose medium showed organs of fructification after one week. It consisted of compact masses of spherical or subspherical conidia borne on conidiophores both terminally and laterally (Figs. 4A & B, *vide* Plate). In cornmeal agar similar organs of fructification were observed.

Histopathology—Histological examination of the skin showed marked hyperkeratosis and acanthosis. Microscopic abscesses were present in the epidemis with collection of polymorphonuclear neutrophils. The corium showed marked cellular infiltration involving the upper and the middle zones. The cellular infiltration consisted of polymorphonuclear neutrophils, lymphocytes, plasma cells and epithelioid cells. Miliary abscesses were present in the upper part of the corium (Fig. 5, *vide* Plate). Brown, septate, spherical bodies measuring about 7 μ in diameter were seen around the miliary abscesses (Fig. 6, *vide* Plate).

Inguinal lymph nodes of both the sides revealed that the glands were enlarged, friable and necrosed as in a case of tuberculous gland, without any trace of lymphoid tissue. Microscopically, sections stained with haematoxylin and eosin showed polyhydral dark-brown bodies measuring about 5-7 μ in diameter.

Biochemical reaction—Sugar tubes did not show any change, but the growth was similar to that obtained in the broth culture.

Animal inoculation—Guineapigs were inoculated intraperitoneally without any success.

Discussion

Chromoblastomycosis is a disease of the warm climate and majority of the cases are seen amongst the cultivators. Although India is a tropical and an agricultural country, the disease has not been recorded prior to this. It is however believed that on careful scrutiny more cases will be recorded in future. The disease is commonly found in males and rarely in females. In the case under review the subject is a female one. The character of the lesion in our case was one of hyperkeratosis with formation of papular and nodular lesions rather than a typical cauliflower like verrucous dermatitis seen in the limbs. The site of election has already been mentioned by us and this appears to be a rare site to be affected by chromoblastomycosis. Slight amount of thickening of the skin was noticed with solid oedema and this could be explained by the cicatrical obstruction of the lymphatics draining the part. Histological examination from the skin lesion showed infiltration with inflammatory cells and microscopic abscess formation, but no typical giant cell could be demonstrated in this case. Metastasis of the inguinal lymph nodes occurred on both the sides but lymph nodes were necrosed to such an extent that they became markedly friable and no lymphoid tissue could be seen. The cells were all destroyed and the nature of the cellular reaction in the lymph nodes could not be studied except the fungal spores lying in the necorsed tissue. On the other hand, by direct examination of the friable material from the lymph node, typical dark-brown spore bodies separated by septa could be demonstrated. Culture from the lymph nodes also gave a positive result. *P. verrucosa* reproduces by Phialophora type of sporulation; whereas *H. pedrosoi* does so by three types of sporulation namely hormodendrum type, acrotheca type and phialophora type. *H. compactum* is characterised by the absence of all the above types of sporulation. Thus by a process of elimination of the above types and the presence of spores in compact masses at the terminal and lateral conidiophores, we arrive at the conclusion that the fungus in this case is *H. compactum*. This compact type of sporulation was noticed in microcultures prepared by different media including cornmeal agar.

Conant (1937) observed that *P. verrucosa* (Cadophora americana) occurs as saprophytes in decaying wood. The saprophytic strains of *P. verrucosa* have been found by Conant and Martin (1937), to be similar with the pathogenic strain both morphologically and antigenically. Again *H. pedrosoi* has close resemblance with saprophytic species of Cladosporium present in the soil. It therefore leaves little doubt that this infection occurs as a result of contamination of the skin from soil or decaying vegetations after a trauma. Pardo-Castello *et al* (1942) observed all the three types of sporulations in one of their strains. Owing to the similarity of the spores of the three aetiological agents of chromoblastomycosis it has been suggested by Carrion and Emmons (1935) and also other workers that this group of closely related fungi may have a common origin.

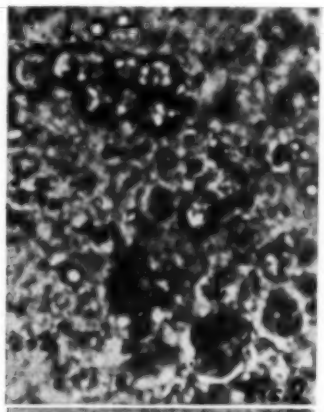
Summary

A case of chromoblastomycosis of the female external genitalia is recorded for the first time in India.

This was confirmed by direct, histopathological and cultural examination by finding typical spores in the tissue and by the typical growth in the culture.

Metastasis which is rare in these cases was noticed in the regional lymph nodes (inguinal lymph nodes).

The organism was found to be *H. compactum* by observation of typical compact types of spores in this case.



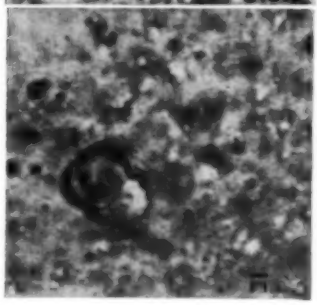


Fig. 1—Verrucous dermatitis caused by *Hormodendrum compactum*, affecting the vulva. Fig. 2—Spherical, dark-brown, septate bodies seen in materials obtained from the nodules as shown under a cover slip preparation with potassium hydroxide solution (×800). Fig. 3—Material obtained from the lymphnode showing similar bodies as in Fig. 2 (×800). Fig. 4. Microculture of *H. compactum* in semisolid Sabouraud's medium showing compact masses of spherical conidia borne on conidiophores—(A) terminally and (B) laterally (×400).

Fig. 5—Histological section of skin showing a microscopic abscess with collection of polymorphonuclear neutrophils (×400).

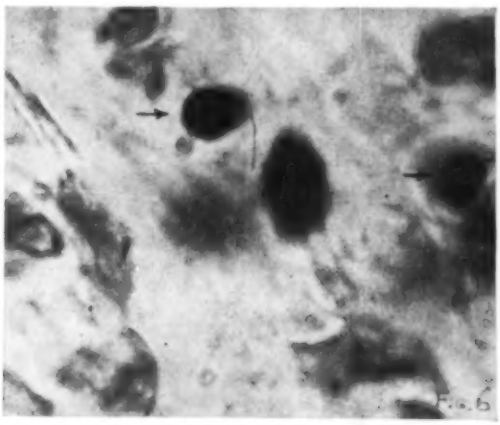


Fig. 6—Histological section of the skin showing dark-brown, septate, spherical fungus bodies of *H. compactum* lying singly in the tissue (×800).

Fig. 1A

Fig. 2A

Fig. 3A

Fig. 4A

Figs. 1A, 2A, 3A and 4A—Submetaphyseal rarefaction of the lower ends of the tibia and fibula more marked on the latter (Before treatment).

Fig. 1B

Fig. 2B

Fig. 3B

Fig. 4B

Figs. 1B, 2B, 3B and 4B—Radiographic examination of the long bones repeated 7 weeks after treatment showing great improvement in the appearance of the lesions.

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REFERENCES

CARRION, A. L. AND EMMONS, C. W.—*Puerto Rico J. Pub. Health & Trop. Med.*, **11** : 114, 1935.

CONANT, N. F.—*Mycologia*, **29** : 597, 1937.

CONANT, N. F. AND MARTIN, D. S.—*Am. J. Trop. Med.*, **17** : 553, 1937.

PARDO CASTELLO, V., LEON, R. R. AND TRESPALACIOS, F.—*Arch. Dermat. & Syph.*, **45** : 19, 1942.

SKELETAL LESIONS OF INFANTILE SYPHILIS

B. B. MUKHERJI, M.B. (CAL.), M.R.C.P. (LOND. & EDIN.),

Sanctoria Hospital, Dishergarh, Burdwan (West Bengal)

Skeletal lesions of infantile syphilis are of great practical importance because they produce pictures both clinically and radiologically diagnostic of the disease. The most marked and characteristic changes are seen in the rapidly growing portions of long bones. The skeletal lesions actually constitute a panosteitis. They are, however, most conveniently described under separate headings of osteochondritis, osteomyelitis and osteoperiostitis, though these changes are often found to occur in combination.

A case of infantile congenital syphilis with clinical and radiological evidence of involvement of the skeletal system as the only manifestation of the disease, is presented.

CASE REPORT

A Muslim male infant, 9 weeks old, was brought to the hospital with multiple swellings of the ends of long bones of four weeks' duration. No definite history of venereal disease could be elicited from the parents. The mother sustained six pregnancies. The second infant born full term died at the age of nine days due to difficulty in swallowing. The other children are apparently in good health. The fifth child, a boy, 2½ years old, suffered from a similar affection of the limbs as the one under study. The condition seemed to have cleared up without any treatment. The sixth child born at full term developed swellings in the bones from the fifth week of postnatal life.

On examination the infant was under-nourished and somewhat pale. The body weight was 8 lb. 3 oz. Symmetrical swellings, tender on pressure, were observed at the lower end of the humerus, upper and lower ends of the radius and ulna, lower end of the femur and the upper and lower ends of tibia and fibula. The infant cried when the limbs were moved. No other abnormal sign was detcted.

Examination of the blood, urine and stools was non-contributory.

Radiographic examination revealed :

Areas of rarefaction at the medial and lateral sides of the lower end of the humerus. Extensive rarefaction on the upper ends of the ulna and radius with a certain amount of periostitis of the upper third. Submetaphyseal rarefaction of the lower ends of ulna and radius with a suggestion of osteomyelitis of the second metacarpal bone. Medial and lateral areas of rarefaction at the lower end of the femur. Destructive osteomyelitis of the upper and medial part of the tibia. Submetaphyseal rarefaction of the lower ends of the tibia and fibula more marked on the latter (Figs. 1A, 2A, 3A, and 4A, *vide* Plate).

Serological examination of the blood for syphilis was carried out on the parents, on the infant under study and two other siblings in the family who were available for examination. All of them with the exception of the father were strongly positive reactors to Kahn test.

A diagnosis of infantile congenital syphilis was established in the infant and latent syphilis in the mother and the two siblings who did not show any clinical evidence of syphilis.

Treatment.—The infant was treated with 150,000 units of PAM administered I.M., daily for 14 days. The other members of the family were also treated with PAM.

The infant's clinical condition gradually improved and radiographic examination of the long bones repeated 7 weeks after treatment showed great improvement in the appearance of the lesions (Figs. 1B, 2B, 3B and 4B, *vide* Plate).

COMMENTS

A diagnosis of congenital syphilis in the infant was established clinically, serologically and roentgenographically The roentgenological appearance of the ends of long bones was differentiated from infantile scurvy by the age of the patient and symmetry of the lesions. Infantile scurvy of the acquired type does not occur at such a tender age.

Skeletal lesions of early congenital syphilis may be the earliest and only manifestation during the immediate postnatal period as in the case under report and the possibility of prenatal syphilis in a tender infant, a few weeks old, with slight swelling of the ends of long bones should always be remembered and clinical and serological examination of the entire family should be the routine procedure. The negative serological reaction of the father's blood is difficult to explain except on the basis that he might have received specific treatment.

SUMMARY

A case of infantile congenital syphilis with skeletal manifestation is presented.

JOURNAL OF THE
INDIAN MEDICAL ASSOCIATION

CALCUTTA, APRIL 16, 1957

GOVERNMENT AND THE I. M. A.

The second general election of India is just over. Parliament and the State legislatures will shortly hold their respective sessions with new Cabinets formed. We offer congratulations to all who have been successful in this election.

It is just the time when a review should be made of the progress made in the last five years. This will help the new members to formulate schemes and ideas for the next five years. Our country is beset with problems, diverse and complicated, and on our part, we are not quite happy over the progress attained in the last five years. We take this occasion to request the newly elected members to study the problems seriously and work for their solutions in order to make the country more prosperous and contented.

The government is solely responsible for the execution of all schemes formulated in the Second Five Year Plan. But it is the people's government and it is desirable that the government should share the responsibility with the people. For this, we like to stress upon the newly formed Central and State governments and the newly elected members of the legislative bodies that, they should seek the people's co-operation at every stage and establish with them a clear and close understanding. Any estrangement between the people and the government means disaster.

There are enough experts in the country,—the economists, the doctors, the engineers and others with their respective organisations. These experts and their national organisations are assets to the country. The government no doubt has within its fold, specialists to plan and execute constructive measures for the country. But no government can employ the whole force of experts of the country. Majority of them exist outside it. It is therefore the duty of every government not to depend entirely on its employees. It is very often necessary to consult expert opinion in complicated matters.

For ourselves, we are chiefly concerned with the medical care of the people. We belong to an organisation which is the only national medical institution of the country, and as such, we are entitled to speak on behalf of the medical profession of the country. So, in regulating and guiding the work of the medical and public health departments under the government, it is meet and proper that competent advisory committees with official and non-official members should be formed both at the Centre and in the States.

The Indian Medical Association has always offered its services to the government and takes this occasion to repeat its offer to the new members who have been elected by the people to run the government for the next five years, in the various States of India as well as in the Centre.

The need for new methods of distributing medical services has been felt since the beginning of the industrial era. Public health services have been fully developed in all civilised countries. In India, the Employees' State Insurance Corporation has been established in a large part of the industrial areas in almost all States. We hope very soon, medical facilities (including specialist service) will be extended to the dependants of industrial workers. We also like to see, that in a short time similar facilities be extended to all other categories of workers including the agriculturists in rural areas, who form the major bulk of the population. The newly formed legislative bodies should have in their consideration the desirability of an early introduction of such medical benefit schemes. For selected urban areas, Government sponsored health insurance schemes may prove successful. But for the rural areas, a sufficient number of qualified medical practitioners would have to be trained in public health matters and appointed by the Government directly as insurance schemes cannot be implemented in such areas. On our part, we are always ready to work in any committee that might be set up to formulate plans in this direction.

Health Committees should be formed throughout the length and breadth of the country, with members of the legislative bodies, the Indian Medical Association and the general public. The advantage of seeking assistance of the Indian Medical Association is that this association has branches spread over the whole country. We can assure the government that if such health committees are formed and members of the IMA are taken in the committees, they will work earnestly for the benefit of the people.

Again, we have to appeal to the newly elected members of the Parliament and the Legislative Bodies to consider seriously the question we have raised here that in all schemes for the development of the country, advisory committees should be set up with experts from inside and outside the government for proper guidance necessary for the successful execution of all schemes concerning public health, medical relief, medical education and medical research.

CURRENT MEDICAL LITERATURE

Transaminase in Coronary Artery Disease

OSTROW AND OTHERS (*Circulation*, **15**: 790, 1956) in giving a summary of an analysis of serum glutamic-oxalacetic transaminase (GOT) determinations in 201 cases of coronary artery disease observe:

The final positive correlation between the clinical-electrocardiographic diagnosis and the 'GOT diagnosis' with respect to acute myocardial infarction was 88 per cent.

In 18 cases coming to autopsy the correlation between elevated serum GOT and recent myocardial necrosis was 100 per cent. Similar elevations were observed in 97 per cent of 60 cases with transmural infarction.

If the clinical and electrocardiographic appraisal for infarction is accepted as the basis of reference, 95 per cent of all cases diagnosed as infarction had elevated serum GOT.

In 18 of 201 cases in which the clinical and electrocardiographic diagnosis was uncertain or negative for infarction there was elevation of serum GOT. Six of these 18 were found to be of noncardiac origin.

It is concluded that the determination of serum GOT provides an additional useful method for the diagnosis of myocardial infarction.

Circulation in the Hands in Hypertension

DUFF (*Brit. M.J.*, **2**: 974, 1956) writes that the resting levels of blood flow in the hands of 36 healthy and 25 hypertensive subjects were measured by venous occlusion plethysmography under standard conditions.

In the healthy subjects the blood flow varied widely between different individuals, but averaged 10·5 ml. per 100 ml. hand volume per minute for the entire group.

In the hypertensive patients the level of hand blood flow tended to be inversely related to the height of the diastolic arterial pressure; in those with mild hypertension the flow was on average higher than in the healthy subjects, while in those with severe hypertension the hand flow was much below normal.

The results are interpreted as evidence that in hypertension a functional abnormality of the vessels themselves is probably more important than excessive activity of the vasomotor nerves.

Neurological Manifestations of Malignant Hypertension

CLARKE AND MURPHY (*Brit. M. J.*, **2**: 1319, 1956) from an analysis of a study of the neurological features which were present in 73 out of 190 cases (33 per cent) of malignant hypertension observe:

The 65 patients known to have died could be grouped clinically into: group 1, those dying from a single neurological episode; group 2, those suffering a neurological lesion but dying from a non-neurological cause; and group 3, those who suffered more than one cerebral lesion and died because of them.

Individual manifestations of involvement of the nervous system have been analysed. Unlike giddiness, headache was no commoner than in the non-neurological group; 27 per cent of the patients suffered from epileptic seizures, but in almost half uraemia was present; 2 per cent had an abnormal mental state, usually associated with focal or generalized vascular lesions.

Three-quarters had an acute vascular episode (focal ischaemia in 48 per cent, intracerebral haemorrhage in 38 per cent, and subarachnoid haemorrhage in 5·5 per cent); and some had more than one type of lesion. Criticism is levelled at the frequent misuse of the term "hypertensive encephalopathy," which should be reserved for the syndrome as described by Volhard; it seems to be very rare, and was found in only one of the cases under review.

An attempt should always be made to determine the cause of each cerebral event, and the term "focal brain ischaemia" used in appropriate cases.

There were eight isolated cranial nerve palsies (facial nerve in seven, abducens in one).

The C.S.F. pressure and contents were normal in 6 out of 42 cases. High pressure was found in 29, blood-staining in 11, and elevated protein content in 9 non-bloody fluids; some had more than one abnormality.

Treatment appears to have prolonged life where severe renal damage was not present at the start of treatment. The survival in this group when untreated averaged less than a year. Ganglioplegic drugs seemed to be more effective than sympathectomy. (*Author's summary*)

Treatment of Hypertension

GILCHRIST (*Brit. M.J.*, **2**: 1011, 1956) gives in the following lines the summary of his observations on the treatment of hypertension.

A great variety of remedies are available for treatment of hypertensive vascular disease. General measures include: (*a*) simple psychotherapy; (*b*) advice regarding a physiological way of life; and (*c*) instructions regarding weight reduction and restricted Na intake.

The detection of a precise aetiological cause, and its prompt surgical removal, can lead to permanent cure.

In most cases treatment must be determined by the degree of vascular impairment rather than by blood-pressure readings.

All patients showing hypertensive retinopathy should have intensive therapy, also those without serious retinal changes but who have had transient cerebrovascular episodes, attacks of left ventricular failure, or angina. Most patients disabled by severe hypertensive symptoms will also require the more potent hypotensive remedies.

Patients who have no symptoms, or only minor ones, and who present no evidence of serious retinal, cerebral, or cardiac damage require advice about their mode of life, and only mild hypotensive agents such as rauwolfia.

Rauwolfia potentiates other hypotensive agents. Rauwolfia, with or without "veriloid," and low-salt diet may keep hypertensive heart failure in check, but more commonly pentolinium and Na restriction will be

required. Rauwolfia alone or with veriloid often helps the anginal patient with hypertensive coronary disease.

Low-sodium diet combined with veriloid is probably safer than intensive methonium therapy for cerebrovascular lesions. For uncomplicated Grade 3 or 4 hypertension rauwolfia with pentolinium is the treatment of choice.

Preliminary experience suggests that the effective dose of mecamylamine is more readily determined and more constant than that of the methonium compounds. It may therefore ultimately replace pentolinium, but the long-term results are not yet known.

In the presence of uraemia all hypotensive drugs are valueless, though in the milder grades of renal impairment hydralazine ("apresoline") may prove helpful.

For patients incapable of regulating their pentolinium routine or if the response to the drug is poor, lumbodorsal sympathectomy is indicated, provided renal and cardiac functions are reasonably good.

Rauwolfia and Protoveratrine in Hypertension

GIBBONS AND OTHERS (*J.A.M.A.*, **162** : 92, 1956) from the analysis of the study on the effects of certain preparations of Rauwolfia in 58 patients with hypertension of various degrees of severity observe :

The doses, initially small, were gradually increased until a fall of blood pressure or unpleasant symptoms occurred and were reduced when troublesome side-effects appeared. In the 58 patients so treated, the group fall in mean blood pressure amounted to 12 and 15 mm. Hg for the recumbent and the standing positions respectively. Minor side-effects were observed in 48 and severe mental illness in 4 of the patients. In 19 patients the addition of a veratrum preparation to the therapy caused further reductions of only 2 and 3 mm. Hg for recumbent and standing blood pressures, although the dosage was large enough to cause alarming symptoms in two. In seven patients who received veratrum preparations alone no consistent hypotensive response was obtained. The need of watchfulness and of individual adjustment of dosages was clearly demonstrated.

Drug Treatment of Essential Hypertension

ROY (*Indian Heart J.*, **7** : 151, 1956) from a comparative study of the hypotensive effects of the newer drugs in essential hypertension observes :

Several hypotensive drugs have been added to the armamentarium against hypertension. None of these offers a real answer to the treatment of hypertension but some of them in various combination offer a means for a more effective control of high blood pressure than has been possible to achieve by the older methods of rest, sedatives and nitrites.

In the experience of the author the combination of reserpine with hydralazine or dihydrogenated ergot alkaloids offers better chances for controlling hypertension than the use of single drugs like hydralazine, hydergine, reserpine and hexamethonium. Triple combinations are on trial at present. Such combination can, in a fair proportion of cases of established hypertension, cause a definite improvement in respect to the levels of blood pressure and the clinical well being. But the good effects persist as long as the drugs are administered. When the drugs are withdrawn there is a tendency to recurrence of hypertension—slow return to initial hypertensive levels with the combination (reserpine and hydralazine and reserpine and ergot alkaloids) but a quick return after the use of single drugs. The undesirable side effects are a problem in the use of all these drugs but particularly so with hexamethonium.

The use of a combination therapy appears to have synergistic value and lessens the incidence of untoward side reactions.

The problem of malignant hypertension still remains very unsatisfactory. Hypotensives are temporarily useful in cases prior to the development of uraemia. In the uraemia cases modified Kempner diet regime is likely to prove more beneficial than the use of hypotensive agents.

Penicillin Therapy of Cardiovascular Syphilis

DEVI CHAND AND OTHERS (*Indian Heart J.*, **7** : 143, 1956) from a seven year follow-up study of 41 cases of cardiovascular syphilis treated on the standard WHO schedule of procaine penicillin in oil with 2 per cent aluminium monostearate observe that this course of penicillin fails to arrest the progression of syphilitic process in the aorta and suggest a revision to some more effective therapeutic schedule.

No case of shock or Herxheimer's reaction after penicillin was enconntered during the study.

Refractile Granules in Lymphocytes

DOST AND RIND (*German M. Monthly*, **1** : 265, 1956) in reporting on refractile granules in lymphocytes as a haematological sign of erythroblastosis foetalis write that the refractile granule count is defined as the percentage of lymphocytes containing one or more refractile granules (which are mitochondria rich in lipids). Normal values for newborn and older children are less than 5 per cent; higher values are definitely abnormal.

Clinical observation and animal experiments confirm that pathologically raised refractile granule counts are due to liver damage. Refractile granule counts might therefore be used as a liver function test.

Refractile granule counts are raised in erythroblastosis foetalis. Their level depends upon the severity of the disease and the age of the infant; erythroblastaemia, icterus or antibodies do not influence refractile granule counts.

Normal refractile granule counts probably exclude erythroblastosis foetalis. Raised refractile granule counts in this condition are evidence of liver damage as part of the disease process. Abnormally high refractile counts also occur in other diseases; erythroblastosis foetalis is remarkable only in that it is the commonest cause of raised refractile counts in newborn infants. High refractile granule counts in the newborn should lead to the immediate suspicion of the presence of erythroblastosis foetalis.

CURRENT TOPIC

XVIII CONFERENCE OF THE ALL-INDIA OPHTHALMOLOGICAL SOCIETY

Dr. D. G. Patwardhan, the President of the Conference in course of his address dwelt on the following :

The Problem of Ophthalmic Education

Although it has been repeatedly discussed at several of our conferences in the past, I feel that it needs a fresh approach in view of the new planning of medical education undertaken by our Government at the centre, and the impact of the attempt by our universities to reduce the burden of studies on the undergraduates by deleting the study of ophthalmology. The expansion of medical facilities in the country by way of establishing more medical colleges and hospitals in the second five-year plan envisages more teachers and post-graduate students. The attempt of the universities on the other hand to reduce the curriculum of studies, places ophthalmology in the teaching institutions in the position of a neglected stepchild. I should like to present the problem of ophthalmic education as a fourfold one which confronts us and the Government.

A—The training of the undergraduates.
B—Training of the postgraduates.
C—Training for the cadre of good teachers.
D—Training of general practitioners by means of special refresher courses.

A. *The Training of the Undergraduates*—I need not lay emphasis on the colossal number of the blind in our country which forms one-fifth of the total blind population over the globe. Our greatest barriers in the prevention of blindness are the long distances, between the villages and cities where ophthalmic help of some sort is available, poor communications, poverty, ignorance and superstition. With a major part of the country's population residing in the rural areas, the luxury of an ophthalmic specialist is hard to obtain. If home remedies cannot give relief to the eye condition, the poor patients seek the help of the nearest practitioner. As a matter of fact, the general practitioner is the first medical attendant to tackle or examine the eyes of the patient before he is referred to an eye specialist. The services of an ophthalmic specialist are not available easily because of the acute shortage of trained personnel and secondly because they usually are huddled up in large cities. The main reason for such a crowding being, firstly, it is advantageous to practise in large cities and secondly the amenities available for the education of his children on modern lines do not exist in the rural areas. Very often even a general practitioner is not to be found within a reasonable distance. The obvious result of such conditions is, that the gap is filled by quacks and self-styled ophthalmologists who having taken a little training in ophthalmology here and there feel themselves competent enough to undertake any difficult clinical and operative ophthalmic work. Without legal barriers to stop them and devoid of respect for professional ethics as they are, they take all possible liberty with that important organ of the body, the eye. Under these circumstances the general practitioner is expected to examine and treat the eye condition whenever he is available. Hence it is very important that the general practitioner should at least have a thorough knowledge of the basic principles of ophthalmology. During the past few years, owing to the bogey that the medical curriculum is too heavy for the undergraduates, the university authorities have reduced ophthalmology to a place subservient to surgery. We all have passed through the mill at one time or other and as human nature rarely undergoes a radical change, it need hardly be stressed that the student naturally would neglect the study of ophthalmology and hence would not be in a position to tackle even the simplest eye case with confidence after his graduation. For these reasons the undergraduate training in the subject of ophthalmology should be on sound lines. The fundamentals of ophthalmology should be properly taught, the student should be trained to think on right lines so that he is able to diagnose and treat the common eye ailments. With this end in view, we must move both the universities and the Medical Council to reconsider their decision and redesign the medical curriculum and the qualifying examination in such a manner that a better class of general practitioners is produced, armed with a sufficient knowledge of the fundamentals of ophthalmology.

B. *Postgraduate Teaching*—During the last fifty years or so, medicine has altered greatly, and we find that diagnosis by physical examination has given way to diagnosis by laboratory investigations, x-ray findings etc. Ophthalmology, though a science by itself, can also be a great asset especially in its diagnostic aspect to its sister sciences like medicine, neurosurgery, neurology etc., owing to the ocular manifestations in systemic diseases of the body. Many of us who are teachers are responsible in training our postgraduates to enable them to undertake and treat difficult eye cases with responsibility, skill and sincerity. They must be trained fully in the methods and art of refraction, before they leave their *alma mater*. They should be guided to develop a good clinical acumen and judgment. They should be trained in the art of operative techniques. There should be no short cuts to success and it should be our bounden duty to give the postgraduates the best that we possess. It cannot be given in the form of a pill and in a short space of time. A postgraduate must spend at least two to three years in any ophthalmic academy and I personally feel that during this period he should be groomed fully both for outdoor and for indoor work, operative assistance, responsibilities in precis writing, maintaining details of records and statistics of his own work. He should be given a thorough guidance in the details of the operative techniques and allowed to develop a technique of his own, unless such attempts, in the opinion of the teachers, appear hazardous for the patient. These habits are essential to be cultivated in a postgraduate if he is to prosper in his future career and a little attention during the period he is studying, would, in course of time, bring very good dividends. Another aspect which is sadly lacking is the aptitude for research work either basic or clinical. A

postgraduate should be encouraged and induced to undertake study of a special problem, offered by the teacher. The teacher should guide him on proper lines by suggesting ways and means for a proper approach to the problem. It is here that a good teacher can be an embodiment of friend, philosopher and guide. Liberal thinking, broad views and a wider outlook are essential complements in the making of future teachers and specialists and nothing makes a man more conceited than being in one place. Travel and wider experience are the key-notes for future success in his career, and with this aim in view I feel it my duty to offer a suggestion; let the universities in India having facilities for teaching postgraduates in ophthalmology, form an interuniversity board of studies. They should arrange for an interchange of postgraduate students for a period of two months in a year. During the course of three years for qualifying for M.S., every postgraduate should visit, for three to six months, places outside his own *alma mater*. It would be a sort of change *cum* study tour with benefit to himself and the universities which cannot be discussed in words. The student would thereby acquire a wider range of experience from outside teachers, his outlook on the problem of his own speciality will be broadbased and his experience of diseases, socio-economic conditions and conditions in ophthalmology pertaining to districts will be an asset to him and will go a long way in shaping him as an all-round ophthalmologist, and will help him to launch his career independently and with confidence. He would thus be an asset to the community and to the country. An exchange of teachers for short periods on similar lines will also improve the teaching considerably. But postgraduate teaching, apart from the ideal so much talked about, hardly exists. Let us pause and think over the problem and mobilise our resources and organise proper postgraduate teaching on sound lines and I feel confident that we are bound to achieve success. Those of us who are members of the universities must take up this point and do something about it. In other words, let us make a good beginning and see that what we decide is convincing and carried through. Postgraduate studies, if organised on these lines, would mean economy of time and money at present unnecessarily spent in foreign countries and can be utilised for a useful purpose by organising short study tours abroad, which would permit them to visit important centres of learning and would enable them to sharpen their wits and refresh their ideas and methods of observation.

C. *Training of would-be Teachers*—With the increase in the number of the medical colleges anticipated by the Government in its new planning schemes, there is surely a place for teachers. Teachers, and to speak of good teachers are few and far between and difficult to obtain. It would be a mistake to place young, inexperienced men in the jobs as teachers for imparting instructions to undergraduates and postgraduates merely on the ground that they possess a specialists' or a high academic qualification. Mere possession of a higher qualification in ophthalmology does not mean that he or she has the necessary qualities of a good teacher. Teaching is an art and a good teacher has in addition several requisite qualities which are rarely found except as natural gifts. Training of would-be teachers under a proper and organised scheme seems to me the only possible solution. This means that there should be a central institute for training those who desire to take to the profession of teaching after obtaining a higher postgraduate qualification in ophthalmology. The start must be made from the senior as well junior teachers. It is customary at present to label the head of a department or a senior honorary as a teacher. Universities and academies must recognise junior members of the staff and assistants as teachers as well. The junior members should be given opportunities and increasing responsibilities for training the under- and postgraduates. It may be classified as the junior cadre of teachers; in due course as occasion arises, they could, with confidence fill the vacancies of senior teachers. The selection for the senior post should never go by rotation but by competition. This would greatly improve the teaching and every junior member of the staff would naturally spend more time and energy over his problems of teaching to make himself more competent for future honours. Above all, every ophthalmic teacher must spare time to devote on one or two problems of research. The senior teacher should be given full facilities for such work, which would enable him in turn to guide the junior under him in a more efficient manner. This would place a band of fully trained personnel at the disposal of the Government and will augur well for the future. If and when, full time teachers are to be appointed they should be selected from such a cadre.

D. *Refresher Courses for General Practitioners*—A practitioner finds it hard to replenish his knowledge by way of study at home or in library. The only possibility to brush up his memory and acquaint himself with recent advances in particular fields is to undertake some sort of an organised refresher course. This could easily be done by the medical colleges. The organisers of such courses, should always remember that the general practitioner has to earn his living and hence the lectures and demonstrations should be arranged at periods when he can take a little time off from his practice. There should be a wider range of subjects for the practitioner to choose from and by trial and error the organisers can work out a scheme of subjects which primarily occupies the interest of the practitioners.

Research

While our country can boast of research workers like Sir C. V. Raman, Sir J. C. Bose and several others in other fields, we have not been able to produce men of such calibre in the section of ophthalmology. The reasons are obvious. We are primarily absorbed in clinical work where our motto runs parallel to John Stuart Mills "Utilitarianism": 'The greatest happiness of the greater number' and we hardly find time to devote ourselves to problems of research in our own speciality. It must be confessed, that, research to-day, even on pure clinical grounds, is more exacting and time consuming than in the beginning of the twentieth century. For basic as well as clinical research the old

problem of a carpenter without tools still exists. I emphasise this point still further and say that the facilities for research are deplorably lacking. Several institutions attached to medical colleges and teaching institutions are poorly equipped and even the amenities and necessary instruments for clinical work like the perimetre and the slit lamp—the basic requirements of any well organised eye-clinic are lacking. At the medical colleges the laboratories are so overburdened with routine work that they do not have time or patience to undertake specialised ophthalmic work. There are hardly any trained technicians to be found in the field of ophthalmology. With these handicaps the research work in ophthalmology has been sadly neglected. The doling of money by our research organisations like the Indian Council of Medical Research is so meagre that it is hardly sufficient to buy the test tubes and the chemicals. The research worker has probably to maintain himself on other resources than the income derived from the occupation. Under these circumstances we can hardly aspire to carry out a decent research programme. Research to-day is not merely an individual attempt to work on a problem. There should be liaison between the research worker, the clinician, physician, anatomist, neurosurgeon and neurophysician and the biochemist. The symposium on Glaucoma at the International Conference at Toronto in 1954 is a good example of the team work. As Sir Stewart Duke-Elder put it, every one had his own explanation on the causation of glaucoma and it was hard for the clinician to believe which one was right. Considering the other side, we have a large amount of material extremely useful for research work, being allowed to run to waste for lack of finance, Government support and other facilities for organised research. A research worker's job is a whole-time job and he must have adequate remuneration to enable him to devote himself with zeal and enthusiasm to his work. As it exists to-day one may say what was said about a poet that his poetry hardly brought enough money to buy even a pair of shoe laces. During the past, the Government has spent a lot of money on beautiful buildings for the colleges and is planning to do so for many more, without adequate equipment, is really a sad memorial to those who guide our medical education. Not long ago one of the learned ophthalmologists from abroad who visited this country remarked 'you have magnificent buildings with a hollow interior, while we have poor buildings with a rich interior'.

In our country the incidence of blindness is one of the highest in the world, as more than 30 per cent are from age groups under 20 years and worse than that, most of those in this age group have lost their sight under the age of five, one has to consider the length of life these handicapped persons have to spend and our salvation lies in "Prevention of blindness through ophthalmic research". Both the philanthropist and the Government pity the blind and undertake to look after them, but we are looking forward to the day when our parliamentarians would induce the Government to fight the scourge of blindness, particularly in the young, by a scheme of organised research in the causes that lead to blindness and their prevention. In the United States the problem of blindness amongst the prematurely born children suffering from retrolental fibroplasia was traced to the routine administration of oxygen and to-day the ophthalmologists have practically eliminated the scourge. Could not our Government, at the centre and state levels undertake a co-ordinated research work in the prevention of the causes that lead to blindness?

So far as our society is concerned, the All-India Ophthalmological Society at its 16th conference held in Bombay, appointed a special committee, which drew up a scheme and submitted it to the Government for 'The foundation of a Research Institute in Ophthalmology and an Eye Bank'. I strongly feel that the Government should implement this scheme at an early date. A step in this direction has been taken by the Central Government by the establishment of an Institute of Medical Sciences in Delhi. But there also, it is sad to find that the ophthalmologist has a position as a subordinate in the surgical unit.

Ophthalmology is a science in itself and though it is inter-related to neurology, neurosurgery, medicine, surgery and other subjects, it has to be recognised as a separate entity by itself. I only hope that even at this stage our Government may give this matter their due consideration and give the ophthalmologist at the Institute a position at par with other specialists, thus giving him full liberty to organise the department and section for research without any let or hindrance.

Personally I feel that each state should have an institute for organised research in ophthalmology. It is absolutely essential for a vast country like ours. At the same time the existing hospitals should be upgraded and equipment for clinical examination and research should be supplied to all such institutions. Technicians in the various fields and small clinical laboratories and animal houses should be provided for the ophthalmic wings of the medical colleges.

Pharmaceutical research of drugs used in ophthalmic practice is also necessary. Varied as may be the claims of indigenous drugs used in ophthalmic practice, an organised research may bring to light some useful medicinal or herbal preparations, which could be incorporated in the ophthalmic pharmacopoeia.

Prevention of Blindness

Prevention of blindness is a world wide sociological problem and has been recognised as such by the organisation of the International Association for the Prevention of Blindness formed in September 1929. India is cursed with a huge population of blind people. Most of these cases are blind from causes which do not exist in other countries. Prevention is possible in more than two-thirds of these blind cases if adequate therapeutic and preventive measures are adopted. What is needed is (i) an organised research into causes that lead to blindness, as I have already mentioned before and (ii) treating the disease at its early onset. If statistics were available one could ascertain the causes of blindness. However in their absence one can only rely on one's own personal experience; but these are not a reliable sort of data on which one can base conclusions. Whilst some of the causes leading to blindness, like deficiency

in adequate and essential constituents of the diet, venereal diseases, small pox and ophthalmia neonatorum are at present controlled by adequate therapeutic and prophylactic measures, there are others like the industrial eye injuries, glaucoma, cataract and other blinding diseases which require an expert handling by our Governments at the centre and the states. Government is both shy and slow in taking active measures for the prevention of blindness. For instance, in spite of the offer from W.H.O. the trachoma problem remained in cold storage for some years with the result that most of the other nations who took advantage of such facilities, have made tremendous advances in the study of the trachoma problem, its control, treatment and prophylaxis during recent years. Japan has gone so far ahead as to introduce a bill of trachoma prevention and formulate duties of Japanese association against trachoma, while we have hardly made any progress at all. With pressure from without and within, the egg of Trachoma Pilot Project has at last been laid in the Aligarh basket. Whilst there is nothing to envy Aligarh in this matter, the place is probably ideal with its workers groomed and trained for field work, I feel that this colossal task will be rather difficult for them to carry even on their broad and trained shoulders. An important complication is that the project though meant for mass work, has been placed in the hands of the Indian Council of Medical Research. If work on trachoma has to be covered on broader issue of the country as a whole, it should be considered on lines far different from research. It is true, that statistics, experience in the field, records if well maintained, may cover an ideal ground to base some conclusions; but the difficulties in the path of the pilot project would be manifold. It may mean a mere statistical survey and mass treatment, but in a country with a variety of population, its geophysical, geographical and metereological variations, hygienic and socio-economic factors varying in different areas, it would be difficult to fit a uniform single pattern for the whole country. The greatest difficulty would be to find an army of trained personnel (men and women) to go round giving adequate and required treatment on a mass scale. Treatment of trachoma infected children below the school going age, will be another difficult task to perform and one cannot understand the propriety of research under the scheme, one may call it a dump of clinical garbage with some method in its arrangement. If those at the helm of affairs in the department of health make it a point to discuss such matters with an official representative body of our Society, I am sure, they would find a wealth of information on which to base their decisions and the project could then easily be used on more fronts than one and on more sound lines. Such consultations would definitely produce better results.

While we probe into these points, we must also emphasise the necessity to take up the challenge ourselves. If some of our senior members with the help of the junior members and the postgraduates start a campaign to work against the evil of trachoma in their respective institutions, I am sure, much more can be achieved by our united efforts than the pilot project of trachoma. To-day in the urban and rural areas the emphasis is to muster all the strength of the medical faculty and the social workers for the creation of a healthy future generation. Our modern children's clinics have to be busy examining the healthy child and arrange and advise for its proper bringing up. The era when a social worker brought a poor suffering child for whom the pediatrician could probably do little, is fast getting out of mode and what I have mentioned above should be the main line of action. If ophthalmic clinics are started in similar lines it would be a great asset to the nation.

I cannot conclude this portion on the prevention of blindness without mentioning the visit of Mr. Ulmer, an attorney from Ohio, who from his personal trouble of defective vision due to cataract in both eyes, undertook to pursuade the United States Government to undertake a fight against blindness by organised research into the causes leading to blindness. During the past ten years, he has, on his own initiative, mustered the strength of the members of the Senate and others, with the result that America to-day is the leading nation in the field of ophthalmic research. In an attempt to coordinate ophthalmic research all over the world, he undertook a tour of the various countries and visited India last December. Those of our members, who had the privilege to meet and discuss with him, must have thought that a similar action in our country would go a long way to prevent blindness.

Corneal Grafts and the Eye Bank

This important aspect of surgery is of rather recent origin and development in India. It is true that there is a great scope to practise this type of surgery in India. Many surgeons in different parts of India have acquired the necessary amount of skill and technique and they would certainly be able to perfect their methods provided the donor material is made available. Last year we passed a resolution urging the Central Government to legislate a corneal grafting Act. While efforts on our part have produced some result, one of our members Dr. V. D. Sathaye, M.L.A. from Poona has moved a bill in the Bombay Assembly called the Bombay Corneal Grafting Act of 1956. The object of the bill is to make suitable provisions for removal of eyes of deceased persons for therapeutic purposes and to enable government and private agencies to organise eye banks at suitable centres in the state. This heroic effort on the part of one of our members is a great effort towards relief of human suffering and deserves our highest praise and I am certain that more members of the state assemblies would induce their respective governments for drafting similar 'corneal grafting acts'. Such legislation is necessary in view of the legal difficulties that beset the path of this important branch of ophthalmic surgery. In this connection it would be worth while to mention briefly what His Holiness Pope Pius XII had to say on the subject in his address to the International meeting of ophthalmologists held in Rome during May 1956. In giving a sanction to transplant of corneal tissue His Holiness said "Yes, you assure us that the transplantation of the corneas represents for many patients the

hope of recovery. Well, use it to help the patients as far as it is possible and permissible". He recalled how Rev. Don Carlo Gouscchi bequeathed his eyes to blind children. The legacy of his eyes brought sight to a girl by means of keratoplasty. The dramatic nature of Don Carlo's death-bed bequest aroused such popular interest that a thousand persons pledged their eyes to help others. The first eye bank was thus inaugurated and named after the priest. A bill making eye banks legal is still to be passed by the Parliament, but prompt action is expected to follow Pope Pius's endorsement.

For a country like ours, eye banks are essential and these should be located at places where material for the same is easily available, there are facilities for the storage and research, and arrangements for quick transport to different parts of the country are made available. The public should be educated by films and posters and their co-operation obtained in this humanitarian cause.

Library

A library both for reference and literature is essential to every important city. Lack of such a facility is a serious handicap to many of our professionals. We have nowhere in our country an up-to-date, fully equipped library, which would be useful for an intensive study in any branch of medicine. It is, therefore, necessary that we should organise libraries on proper lines and have them so well set under a librarian that a reference or a cross reference is easily available on any particular problem.

Statistics

Of late, statistics have been found to be an asset in medical research. Inept handling of statistical data makes it unreliable. The figures not only require concentration of thought but a critical reflection. One is apt to create confusion by faulty interpretation. No statistician proves anything by statistics nor can a hard line be drawn between observation and experiment. Observation very often stimulates experiment to exclude the uncontrolled and unwanted variables. Thus it was John Snow who demonstrated the association of polluted water with the incidence of cholera epidemic some thirty years before Koch discovered the cholera vibrio. Thus a conclusion was arrived at on the basis of circumstantial evidence. The strength of experimental approach lies in the fact that the unwanted invariables are excluded by methods of induction. Statistical approach makes a great contribution to medical research in the modern times. Raymond Pearl once wrote that statistical knowledge is not a higher type of knowledge than that derived from other ways ; but is a valuable adjunct in most fields and an essential method in many. The role of a statistician according to F.H.K. Green is more of an obstetrician than a morbid anatomist. His method of approach is to derive and extract scientific knowledge from a mathematical postmortem on a well planned study. It is essential that every clinician and research worker should at least have a working knowledge of modern methods and concepts of statistics.

NOTES AND NEWS

NAPT Commonwealth Chest Conference

The NAPT Commonwealth Chest Conference will be held on 1-4 July 1958. The conference is open to all interested in preventive medicine, including the medical and nursing professions, research workers, commercial and industrial executives, social workers, health administrators, members of local authorities and regional hospital boards.

The subjects will include :

The World Antituberculosis Campaign : Is it Succeeding? The Management of Asthma in Childhood. Ambulatory Management of the Tuberculous Patient. Tuberculosis and Leprosy. Thoracic Surgery in Respiratory Tuberculosis. Tuberculosis and the Psychiatrist. Lung Cancer : Prevention and Treatment. The Family and the Patient with Chest Disease : How best can We Help them to Help Themselves? Dust Diseases in Miners. Tuberculosis Medical and Social Services in British Overseas Territories.

The full membership fee is £5 5s. 0d. (16 dollars) or 15s. 0d. per session if registration fee is received by 31st May, 1958.

Doctors to Quit Health Service

Plans for "a progressive withdrawal" of doctors from Britain's National Health Service beginning on October 2, 1957 and an alternative system of treating patients were announced on March 22, 1957.

The proposals, outlined at a Press conference at the headquarters of the British Medical Association, were the result of a simmering pay dispute between 40,000 national health doctors and the British Government.

The doctors have been demanding a pay rise—their first since 1951—of 24 per cent which they say they are willing to put to arbitration. The Government has refused their claim and arbitration plea, and appointed a Royal Commission to investigate their demand instead.

During October former national health patients would be treated privately but no fees would be demanded from them. Later there would be a fee for each visit.

The doctors' wage demand would add another £20 million to the annual cost of the health service, which is in the region of £600 million.

The average general practitioner in the health service has an income of £2,200 a year plus expenses.

Filaria Control Plan

An agreement between the Governments of India and the U.S., providing a sum of one million dollars (about Rs. 50 lakhs) of the Development Assistance Funds, for India's filaria control programme has been signed by Mr. R. K. Nehru, Secretary, Ministry of Finance, Government of India, and Mr. Howard B. Houstan, Director of the Technical Co-operation Mission to India of the International Co-operation Administration of the U. S. Government.

The funds provided under the agreement will be utilised for the purchase of 470 long tons of dieldrin and

water wettable powder required for the use of 54 units under the filaria control programme.

The Government of India will provide funds to meet the local costs of operation, including procurement of indigenous items of equipment and supplies.

Ceylon's Surplus Fills India's Need

Malaria control in Ceylon has made such headway that the government has decided that DDT production for local consumption can be reduced. As a result, equipment for DDT production provided to Ceylon by the United Nations Children's Fund is being transferred to India, where a programme is under way to double DDT production. The total amount of DDT produced with UNICEF equipment in India is being raised to 1,400 tons per annum. At the same time, the Indian national programme of malaria control is being expanded to 200 malaria control units, which will provide protection for some 200,000,000 people, the estimated population at risk. The first pilot projects of malaria control, of which this vast programme is the outcome, were established with the help of the World Health Organization.

Optical Glass Factory

The setting up of an optical and ophthalmic glass factory in India at a cost of Rs. 2·3 crores and capable of manufacturing fifty tons of optical and 250 tons of ophthalmic glass annually has been recommended by a Soviet team of experts.

The experts, who toured the various parts of India to assess the possibilities of setting up such a factory in the country, submitted their preliminary report to the Government of India a few days ago.

The Soviet Government sent out these experts to find out whether India had the necessary raw materials and other facilities for setting up such a glass factory. The type of further assistance the Soviet Union will offer to India in the setting up of the factory now found feasible by the experts will be discussed by the Government of India with the Soviet Embassy here after it had examined the report.

In their report, the Soviet experts are understood to have stated that the rich deposit of minerals necessary for the manufacture of optical glass as well as the existence in the country of a research institute for glass and glass technology departments in some Indian universities were sufficient prerequisites for the establishment of such a factory in India.

They have recommended Asansol area (West Bengal) as the most suitable site for the factory as the best quartz for manufacturing this type of glass was quarried in Jagadishpur area in Bihar. They have suggested that the Indian Glass and Ceramic Research Institute should conduct experiments to find out whether Indian clays are suitable for optical glass melting.

As regards the requisite Indian personnel for the factory, the experts have recommended that 18 to 23 engineers would have to be trained abroad for a period of 12 to 18 months in technology organisation and production. Another 35 to 40 persons would also have to be trained abroad in melting and processing of optical glass.

India's Medical Research Centre

Delhi which hitherto provided inadequate facilities for medical research and teaching will soon become the focus of medical research not only in this country but in the whole of East Asia.

The site of the All-India Institute of Medical Sciences is near the Safdarjung Hospital on Mehrauli Road, Delhi.

Dotted across 150 acres of land with multistoreyed buildings in gray and pink, many nearing completion, India's future biggest medical research centre, which will cost over Rs. 6 crores, is taking shape.

The cost is borne by the New Zealand Government which has promised to give one million pounds under the Colombo Plan, the Government of India and private donations.

The institute equipped with a 700-bed hospital, a medical school for 120 postgraduates and 50 undergraduate students, a dental college, a nursing college for 400 nurses and providing facilities for postgraduate study in various branches of medicine and surgery will be completed by 1960. Already 50 undergraduates and two postgraduate students are working in the building which will eventually house the nurses training school.

A suggestion for the establishment of this institute was first made by the Health Survey and Development Committee organised by the Government of India in 1943 in its report submitted in 1946. The site for the Institute was then suggested as the Irwin Hospital where the foundation stone was laid in 1952. Later, the committee appointed by the Government of India under the chairmanship of Dr. Lakshmanaswami Mudaliar, which was to advise the Government on the organisation and the general planning of the institute, suggested that the Irwin Hospital area was so limited as not to permit expansion of the institute on the lines it considered desirable. It was then decided to establish the institute at the present site.

Medical Service for Railway Staff

The Indian Railways spent during 1955-56 nearly Rs. 19 on medical service for every person on its pay roll involving a total outlay of Rs. 1·8 crores. The railways, in addition, spent Rs. 2 crores on health services which works out to an expenditure of another Rs. 21 per employee during the year. Besides, railway employees were free to share the medical and health facilities provided by State Governments to all citizens.

The railways, at the end of the year, maintained 80 hospitals and 426 dispensaries for their staff, providing altogether about 3,400 beds for indoor patients. In these hospitals, the railways have 68 sets of x-ray apparatus and a large range of other modern equipment necessary for medical diagnosis and treatment.

Women's Medical College in Delhi

The Lady Hardinge Medical College in New Delhi will undergo a certain metamorphosis from the next academic year commencing in July. The College will have the Irwin Hospital as one of the teaching institu-

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tions as recommended by the Indian Medical Council and will take in 40 men students, in addition to the 60 women, on its rolls at present. The element of co-education will be regulated in so far as the men students will be separately housed near the Irwin Hospital and will have no access to the Lady Hardinge Medical College and Hospital premises except under normal existing rules. Teaching facilities in the Lady Hardinge Hospital will be exclusively for the women students. The women students will however, enjoy the benefit of teaching facilities in the Irwin Hospital which takes men patients.

The teaching of preclinical subjects will, in future, be at the Irwin Hospital premises where the necessary facilities will be arranged.

The existing batches of Lady Hardinge students will continue under the present arrangements.

The new proposals are understood to be generally acceptable and every effort has been made by the Government to meet objectives raised by feminist interests.

Compilation of a National Formulary

The Government of India have constituted a National Formulary Committee to prepare a Formulary containing a list of essential drugs including their useful formulations. The Formulary would be confined as far as possible to drugs and formulations of drugs covered by the Indian Pharmacopoeia.

For convenience, it is considered that the list of drugs and their formulations should be classified under the following categories :

Drugs acting on (1) infections, (2) the alimentary system, (3) the cardiovascular system, (4) the central nervous system, (5) the genito-urinary system, (6) the respiratory system; (7) drugs affecting nutrition and metabolism; (8) drugs acting locally on the skin and mucous membranes, viz., preparations acting on the ear, eye and mouth; counter-irritants; local anaesthetics; general antiseptics; astringents and demulcents; parasiticidal agents and (9) diagnostic agents.

A questionnaire in this regard has been circulated with a request to send the reply to the Directorate General of Health Services, New Delhi not later than 30th April 1957.

Medical Research Council to Spend Rs. 78 Lakhs

The Indian Council of Medical Research proposed to spend about Rs. 78 lakhs during 1957-58 on medical research. The current year's expenditure on this account stood at Rs. 30 lakhs.

The Union Health Minister, who was addressing the annual meeting of the Governing Body of the Council, added that a study of health problems of the tribal people was to be undertaken shortly.

This investigation would include the dietary habits and the nutritional status of the people of the N.E.F.A. area and on-the-spot study of the environmental hygienic conditions of the tribes. A study of abnormal blood traits in the Mahar community in Madhya Pradesh and a study of dental health conditions of the tribal people in Bombay State would also be undertaken.

As regards the health programmes to be taken up by the Council a major plank during the Second five year plan period would be the national water supply and sanitation programme.

The Scientific Advisory Board had recommended the establishment of a public health engineering research unit at the All-India Institute of Hygiene and Public Health, which, in addition to continuing its investigations on the disposal of industrial wastes in Bengal, Bihar and U.P. and the prevention of stream pollution, would co-ordinate all researches in the whole field of environmental hygiene in different parts of the country.

It was now proposed to initiate a pilot study for the control of dracontiasis or guinea-worm disease which was endemic in certain parts of the country and was the cause of considerable morbidity.

The study of human reproductive phenomena represented a new activity of the Council, designed to promote medical and biological research in a vitally important field which may lead ultimately to the development of acceptable methods of limiting the size of a family and population growth.

CORRESPONDENCE

The Editor is not responsible for the views expressed by correspondents

"Tropical Eosinophilia"

SIR,—Dr. K. K. Bajaj has raised an interesting point regarding the nomenclature of the syndrome commonly known as "Tropical Eosinophilia" (*J. Indian M. A.*, **28** : 122, 1957). To my mind it seems that any attempt to find a suitable title for the syndrome at present would be hazardous, since we are still ignorant about its aetiology and very poorly informed about its morbid anatomy. For the present, therefore, the familiar term should serve the purpose as it fairly well represents facts that are known, viz., that the condition occurs mainly in the tropics and that there is an increase in the number of circulating eosinophil cells in the blood.

Dr. Bajaj's suggestion of "eosinophilic bronchitis" seems totally unacceptable for two reasons (1) its manifestations are not always respiratory in nature, and (2) when the respiratory organs are involved the pathological lesions (from whatever little is known) are not simply those of bronchitis.

If we must find out a better term we should try to be more accurate rather than vague. In that sense it may be called eosinophilaemia rather than eosinophilia and in the present state of knowledge we cannot call it anything more than a syndrome. Therefore, if a change in nomenclature is called for at this stage, it may be called "Tropical eosinophilaemia (syndrome)".

S. N. SEN GUPTA, M.B., M.R.C.P. (EDIN.).
Calcutta.

REVIEWS

Methodische Probleme der Klinischen Psychotherapie—Von Dr. D. Langen, Tübingen. Mit einem Vorwort von Prof. Dr. Dr. h.c.E. Kretschmer, Tubingen, 1956. VIII, 120 Seiten, 8°, Kartoniert DM 10·50. Georg Thieme Verlag, Stuttgart, Germany.

Problems and Methods of Psychotherapy—By Dr. D. Langen, Tübingen. With an introduction by Prof. Dr. E. Kretschmer, Tübingen. 1956, VIII, 120 pages 8°, Price : 10·50 Mark. Georg Thieme Publishers, Stuttgart, Germany.

Dr. Langen describes in this short, very well written volume methods of psychotherapy which can achieve in the shortest possible time the best possible results. He discusses the methods of treatment used at the Neurologic Institute of the University of Tübingen, gives their rationale, weighs their advantages and limitations and reviews their results. In a chapter on the organisation of psychotherapy he stresses the importance of close co-operation between the doctor and the nursing staff; a special role is assigned to each person on the staff who is specifically chosen and trained in the treatment of neurosis. A well organised schedule which is strictly adhered to is essential in a psychotherapeutic ward.

The different therapeutic steps as practised by the group in Tübingen are described in detail. The therapy uses those analytical techniques which ask for active participation of the therapist. The "multidimensional" therapy attempts to combine a passive analytical and active synthetical component, a method perfected by Kretschmer. The analytical component uses all available techniques to achieve the clarification of the acute conflict and the realisation of its resolution. The analytical component is hastened by hypnosis. The key position of the therapeutic effect in the analytical phase is the doctor-patient relationship. The transference situation is actively and consciously used beginning at the first meeting between patient and doctor. The influence of the first meeting on the patient is considered of utmost importance in the psychotherapeutic development. The synthetic phase, in which active participation of the doctor is stressed, attempts the integration of the personality which is achieved when the acute conflict has been worked through rationally and emotionally.

An interesting chapter on group therapy discusses the development of this method and its applications. The usefulness of stage acting in group therapy is stressed. The patient who acts his problems and conflicts and dramatises them, has a chance to live through them in a very effective way. Discussions in which common psychological problems are talked about by a group have a therapeutic effect on the members of the group. Even the group situation in the psychiatric ward itself can be used to highlight the individual problems as well as to effect a solution of the conflicts.

Among the mechanical methods to aid in the psychotherapy, insulin therapy, sleep therapy and fever therapy are mentioned and their methods of application briefly outlined. In the closing chapter which discusses the results of psychotherapy at the Tübingen clinic in the last few years it is stressed that the degree of improvement of the neurosis was independent of the duration of the therapy. Dr. Langen comes to the conclusion that the treatment of each patient has its own optimal duration. The average duration of therapy was 7·5 weeks.

This little book contains much useful information not only for the specialist but also for the general practitioner who will benefit by Langen's vast experience in psychotherapeutic methods.

Säuglings-Enteritis—Mitarbeiter : A. Adam, Erlangen, O. H. Braun, Erlangen, H. Hungerland, Giefien, G. Ilgner, Erlangen, F. Kauffmann, Kopenhagen, H. W. Ocklitz, Rostock, F. Orskov, Kopenhagen, E. F. Schmidt, Rostock, K. Schreier, Heidelberg, R. Thurau, Erlangen. Herausgeber. Prof. Dr. A. Adam, Erlangen. 1956. XII, 534 Seiten, 43 Abbildungen, Gr.-8°, Ganzleinen DM 60.

Infantile Enteritis (in German)—Edited by Prof. Dr. A. Adam : Director, University Clinic for Children's Diseases, Erlangen. 1956 XII, 534 pp. 43 ill., DM 60. Georg Thieme Publishers, Stuttgart, Germany.

Ten experts in a particularly complicated and important field of paediatrics have succeeded in producing a valuable and reliable guide through the many baffling problems and pitfalls that are confronting bacteriologists and clinicians dealing with infantile gastro-enteritis in all its manifestations. The increasingly recognised importance of infection in the aetiology of this disease group has been shown from various angles. Differentiation between primary and secondary enteritis proves convenient; the latter is defined as caused by parenteral infection, not by enterotropic organisms. "Dystrophia" is used as the term for all sequelae of enteritis.

A masterly exposition of the bactoriology of *Escherichia coli* enteritis has been given by F. Kauffman and F. Orskov of the International Salmonella and Escherichia Centre, Copenhagen. E. F. Schmidt describes Salmonella and Shigella enteritis. Braun devoted a chapter of 90 pages, seven of them references, to the epidemiology of infantile enteritis, dividing the problem in that of infectious coli enteritis and the infantile diarrhoeas caused by "facultative pathogenic" enterobacteria and viruses. Chapter IV by Ilgner gives a clear picture of the pathologic anatomy in its macro- and microscopic appearances. The next 3 chapters (150 pp.) contain a detailed survey of the biochemical changes. Hungerland systematically and clearly discusses water and electrolyte balance, while Schreier and Thurau describe protein and carbohydrate metabolism in enteritis and dystrophia respectively. In chapter VIII Adam deals with pathogenesis, clinic and therapy. His excellent treatise covers in 100 pages every aspect of the subject and a vast literature, the references alone filling 10 pages. The last chapter by Ocklitz gives an outline of preventive measures in and outside homes and hospitals. Ten pages of a good index conclude this well organised work. Paper, printing and illustrations show the high quality which one expects from this publisher.

In spite of certain inequalities, between different chapters, especially in the treatment of literature by

the various authors, this book is highly commended for paediatricians and practitioners alike. An English translation would be very welcome, especially in India where enteritis is still the main cause of infantile mortality.

Aids to Obstetrics—By Leslie Williams, M.D., M.S. (LOND.), F.R.C.S. (ENG.), F.R.C.O.G. Thirteenth edition, 1956; 6¼″ × 4″. Pages viii plus 270 with 12 illustrations. Baillière, Tindall & Cox Ltd., London. Price 10s. 6d.

This volume conforms to the pocket-size appearance in common with other books of the popular "Students' Aids" series. The whole text has been revised to bring it up-to-date, the entire subject being considered in three separate sections—Pregnancy, Labour, and Obstetric operations. Further subdivisions into a total of 32 chapters will help the student to turn to a particular subject promptly and without the necessity to wade through many pages. An elaborate index will be of special help to the busy student revising before an examination—which is one of the main objectives of such an "aid" book. This small manual is likely to function as a good basis for recapitulation and revision of knowledge obtained from maternity wards and from standard text books. A new Appendix, giving a list of some common drugs used in obstetrics, is likely to be of additional help to students.

Aids to Orthopaedic Surgery and Fractures—By William Waugh, M.A., M.CHIR., F.R.C.S. (ENG.). Fourth edition, 1956. 6¼″ × 4″. Pages viii plus 296. Baillière, Tindall & Cox, London. Price 12s. 6d. net.

The "Students' Aids" series was started in 1876, and in these 80 years, generations of students have read, and benefited by the books of this series, which has now expanded considerably to include subjects ranging from Anaesthesia to Zoology (in alphabetical order). This pocket book of 296 pages contains a great deal of up-to-date information in the subjects—first part of 10 chapters on orthopaedic surgery, and the second part of 3 more chapters on fractures, dislocations and soft tissue injuries. This book does not claim, nor can it be used, to replace a standard text book. But though small it will greatly help students to follow and supplement clinical teaching in the orthopaedic wards (when they are on duty there) as also for revision of the subject before examinations. The teacher will also find the book useful to supply a short resumé for his clinical teaching and class lectures. Diagrammatic sketches, here and there, if incorporated in subsequent editions, will greatly help the student-reader in pursuing the subject.

Management of Life-Threatening Poliomyelitis—Edited by H. C. A. Lassen, M.D. Board bound, 8¼″ × 5¼″, 179 pages. E. & S. Livingstone Ltd., Edinburgh and London, 1956. Price 22s. 6d. net.

A severe epidemic of poliomyelitis struck Copenhagen (Denmark) in 1952, with a high incidence of involvement of upper part of the central nervous system. A total of about 3,000 patients with presumptive, and 2,241 patients with verified diagnosis of poliomyelitis were admitted into one hospital from beginning of August to the end of the year; and during the height of the epidemic, for many weeks, 30 to 50 patients were pouring in every day at the Blegdam Hospital. Out of a total of 1,250 cases of paralysis, 345 patients had insufficiency of respiration or impairment of swallowing or both, with the doctors facing the essential problem of maintaining an open airway and securing adequate oxygenation and carbon dioxide elimination. The situation gradually became so desperate that the hospital authorities were faced with the very exasperating dilemma of having to choose which patient to treat in the few respirators at hand, and which not to treat. However, after some very anxious time, special teams were set up and ultimately they were able to evolve for the treatment of patients with impairment of swallowing and reduced ventilation, a method of choice—tracheotomy just below the larynx with insertion of an inflatable rubber cuff tube into the trachea, frequent suction of the airway, repeated bronchoscopy where necessary, postural drainage and manual positive pressure ventilation with insufflation of a mixture of oxygen and nitrogen.

This book prepared with the help of a grant from the Danish National Association for Infantile Paralysis, tells the fascinating story of this fight for the four years 1952-1956, with a survey of autopsy findings in 115 cases, and should make profitable reading with absorbing interest to all concerned in fighting poliomyelitis—hospital authorities as well as individual doctors.

Dental Health—Edited by Prof. H. H. Stones, M.D., M.D.S., F.D.S.R.C.S. Published 1956 by the Dental Board of the United Kingdom, 44 Hallam Street, London, W 1. Board bound, 83 pages with 62 illustrations (54 in colour). Price 10s. 6d. post free.

The dental health of people in the present day, is far from what may be called "desirable." This seems to be true in every country. The poor state of dental health seems to be contributed to, in part at least, by the hurry and scurry of modern life with consequent less time or attention to dental and oral hygiene. The extensive propaganda and publicity on behalf of various dentifrices may also at times induce the gullible public to feel complacent with the idea that the use of one of these would perhaps effectively counteract the result of negligence of oral hygiene.

This excellent, profusely illustrated small book is designed primarily for school teachers, for those who are training to enter the teaching profession and also for parents and others generally interested in oral hygiene. This book is naturally not intended primarily for dental or medical students. With the minimum use of technical terms, the anatomy and development of the teeth have been clearly described as also the common diseases to which they are prone. Simple measures which an intelligent layman may follow to combat dental disease, have been usefully incorporated. The many illustrations will greatly interest and help the reader to make useful

application of the principles and procedures described in this handy book of ready appeal.

Alcoholism—A Manual for Students and Practitioners.—By Lincoln Williams, M.R.C.S., L.R.C.P. Board bound 8¼"×6½", 60 pages. E. & S. Livingstone Ltd., Edinburgh and London, 1956. Price 8*s*. 6*d*. net.

Alcoholism has already become a serious menace to the life and health of countless individuals, and a threat to the peace and prosperity of many homes and families. The common outlook towards the alcoholic seems to be that he "is an unprepossessing and unrewarding individual and worthy only of scant attention since his condition is self-created and therefore hopeless to treat." In recent years however, there has come about a great deal of change in the outlook, understanding and management of alcoholics. It has been appreciated that "it is unlikely that one factor alone, be it pharmacological, physiological or spiritual, produces the addict but rather that a constellation of factors is responsible for alcoholism". Moreover, the emphasis has shifted from "sin to sickness", the concept of alcoholism as a disease has supplanted the precept of alcoholism as a moral depravity. The author has had a good deal of personal knowledge and experience in the rehabilitation of alcoholics through the help and co-operation of various groups, in accordance with these modern changed concepts. With this background, he has written this book primarily to stimulate interest in alcoholism—its aetiology, diagnosis and treatment ; and in this he may be said to have succeeded ably.

An Introduction to Dermatology—By G. H. Percival, M.D., PH.D., F.R.C.P., D.P.H. Twelfth edition, 1956. Board bound 8¼"×6½", 374 pages. E. & S. Livingstone Ltd., Edinburgh and London. Price 45*s*. net.

More than fifty years have gone by since the appearance of the first edition of this book ; the last edition having been nine years ago. The therapeutic armamentarium, and the management of various skin diseases have undergone great changes in recent years. Some of these new drugs however, are occasionally found to be causes of skin diseases by themselves—thus offsetting some of the benefits. This book has been written in a clear and lucid style, fulfilling well indeed its objective, as evident from the title of the book. A profusion of 239 illustrations, mostly in colour, makes reading easy and pleasant, and will constitute a ready-reckoner and guide for the busy practitioner and the student-beginner in the subject; for both of whom this book may be strongly recommended.

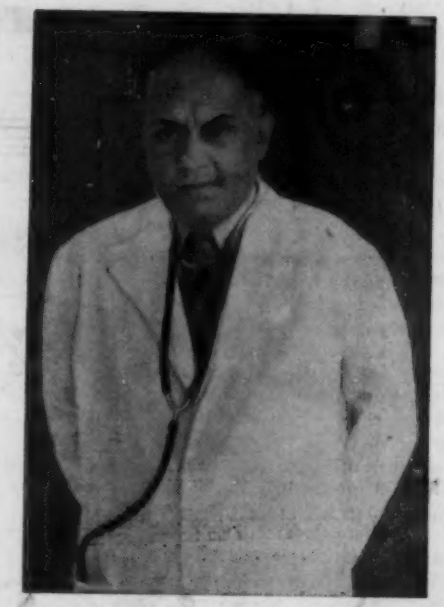
Aids to Medicine—By J. H. Bruce, M.D., M.R.C.P. Pp. viii plus 384 with 3 illustrations, Sixth edition, 1956. Baillière, Tindall & Cox Ltd., London. Price 10*s*. 6*d*.

First published in 1906, this book is now completing half a century of its existence as a useful aid to students in the early stages of their training when they find it difficult in discriminating and accepting the essential from the non-essential, as well as in the later stages as a basis for revision in the preparations for examinations. It may be predicted that, in this task, success is well-assured to this new, the sixth edition, which has been revised and largely re-written, appearing as it does 21 years after the last edition (with several reprintings during this interval). The handy size and the moderate price are likely to be of additional appeal to students.

OBITUARY

Captain F. P. Mascarenhas

Captain F. P. Mascarenhas, M.B.B.S., District Medical Officer and President, Indian Medical Association, Hassan Branch, breathed his last on 16th February, 1957. Born in the year 1908 in a respectable family of Mangalore, he had his medical education in Madras. He started his service at Hassan (Mysore State) as a probationer in the year 1934 and worked in different hospitals in different capacities. He was R.M.O. of Krishnarajendra Hospital, Mysore. When he was the District Medical Officer,

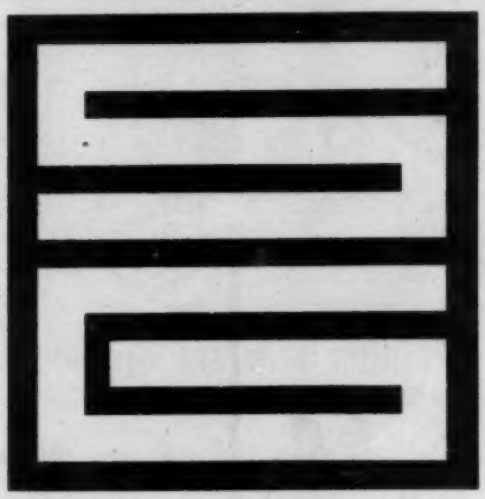


CAPT. F. P. MASCARENHAS, M.B., B.S.

Hassan, he left for War Service in 1943 and was the Medical Officer of M.I.S.W. Hospital, Bhadravathi. He was promoted to the post of a surgeon and stationed at Kolar as a District Medical Officer. He was the President of the Indian Medical Association of a number of branches for over 9 years.

He was a very good surgeon and was reputed for his kindness towards the poor.

May his soul rest in peace!



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SUPPLEMENT
Journal of the Indian Medical Association

VOL. 28, No. 8 CALCUTTA APRIL 16, 1957

APPEAL FOR THE BUILDING FUND OF THE CENTRAL OFFICE OF THE I.M.A., NEW DELHI

The Indian Medical Association has already completed 27 years of its life and the Association with 19,000 members on its rolls at present, has been expanding in many useful directions. It is, therefore, necessary that the Association should have a Building of its own at its Headquarters in Delhi. Members are aware that after years of negotiation, the Government of India have allotted a plot of land measuring about 0·5 acre, for this purpose, at a concession price (premium) of Rs. 18,648/- (plus 5% as annual ground rent) which has already been acquired by the Association. The Association Building will have to be completed by August 1958 and will have to conform in size and pattern to the neighbouring buildings according to regulations.

As the total estimated expenditure is likely to be about 8 lacs, every member has been requested by the Central Council to donate a minimum sum of Rs. 50/- in one or more instalments. Donations received so far from the members aggregate to about Rs. 52,000/- only, even though some members have donated Rs. 1,001/- each.

In view of the extreme urgency of the situation, may we request each and everyone of those members of the Association who have not yet paid any sum as donation to this fund, kindly to donate immediately a minimum sum of Rs. 10/- to the I. M. A. Building Fund (Hony. General Secretary, I.M.A. Central Office, Hanging Bridge, Daryaganj, Delhi 7), so that we may be able to collect at least Rs. 1,90,000/- to start the construction of the building. We would also appeal to every Branch Secretary to take active steps in the matter of collection of this first instalment from each and every member of his branch and see that the full amount per head per member in respect of all members of his branch is sent to the Central Office, before June, 1957.

An uptodate list of donors (Branchwise) is annexed.

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			345 14

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Mavelikara Branch ...	...	130 0	
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		125 0	
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,, Vaishan Payar (Baran)	51 0		
			146 0
M/s. Capco Ltd., Bombay (M/s. E. Merck)			5,000 0 0
30th All-India Medical Conference, Hyderabad-Dn.			3,000 0 0
Members of the Working Committee and Central Council, IMA, who attended the Annual Meeting at Jaipur in December, 1955			3,006 15 0
31st All-India Medical Conference, Lucknow			500 0 0
M/s. Ciba Pharma Ltd., Bombay ...			2,500 0 0
M/s. British Drug Houses (India) Ltd., Bombay			2,500 0 0
M/s. Glaxo Laboratories (India) Ltd., Bombay			2,500 0 0
M/s. Gluconate Ltd., Calcutta			101 0 0
M/s. Parke, Davis & Co. Ltd., Bombay ...			2,500 0 0
Total as on 20-3-57			51,199 7 9

VIII M. P. PROVINCIAL MEDICAL CONFERENCE, 1956, NAGPUR

The 8th M. P. Provincial Medical Conference was held on 17th, 18th and 19th October 1956, at Nagpur. The venne of the Conference was the beautiful and spacious auditorium of the Medical College.

The Conference was presided over by Dr. R. N. Chaudhary of Akola. Dr. B. Pattabhi Sitaramayya, Governor of Madhya Pradesh, inaugurated the Conference. Scientific Session was inaugurated by Dr. K. K. Date of Bombay. The Medical and Public Health exhibition was declared open by Shri M. S. Kannamwar, Minister for Health, M.P.

Dr. G. Sahu, the Chairman of the Reception Committee accorded a hearty welcome to the delegates and guests. He gave a short account of the medical institutions of the town and said "To provide many more doctors in modern medicines, more colleges are necessary and as the Medical Education is costly, the Government, the University and Medical Council should encourage establishment of new colleges by private enterprise. This will also lessen the burden of finance on the Government. And the College Hospital will give relief to thousands of patients who cannot secure admission for want of beds."

In inaugurating the scientific session of the conference, Dr. K. K. Date narrated some of the important advances in medicine. He said "Prevention of most infectious diseases will be possible and tropical diseases in particular, will be almost eradicated. All infections, in the not-too-distant future, will be effectively controlled by the administration of a few antibiotic pills, administered perhaps, by the patient himself, Surgery will ad-

vance with rapid strides, and the intricate surgical procedures of to-day, will to-morrow be rendered relatively simple. Most of the cardiac conditions, congenital and acquired, will be amenable to surgery. Life expectancy and the life span will increase considerably."

DR. G. SAHU, THE CHAIRMAN OF THE RECEPTION COMMITTEE.

Dr. R. N. Chaudhary, the president of the conference in his address said,

"As medical men, our chief duty is to give medical relief to the urban and rural population. This is a combined duty of the Government and private medical practitioners.

Prevention of diseases should be the primary aim of the medical profession. It is the duty of the Government to attach primary importance to prevention of diseases. Any expenditure incurred for the prevention of epidemics and preventable diseases will pay good dividend in the form of saving enormous expenses incurred after the outburst of the disease. It is unfortunate that the Government has not paid sufficient attention to the preventive side of the medical relief so far. It is true that the prevention of diseases depends upon so many other inter-related factors mainly, the economic conditions of the people. But till the economic standard is raised, the Government should see that pure water supply is available through the length and breadth of the country. This single improvement alone will cut down the incidence of all water-borne diseases such as Typhoid, Cholera, and Dysentery. Government should provide minimum sanitary arrangements for the villagers. We invariably see that the villagers for want of space, especially in rainy season, ease themselves, anywhere along the approach roads. This leads to the spread of all the fly-borne infective diseases. It is no use saying that they should not do this, unless they are provided with facilities. The drainage in the villages needs overall improvements. These improvements do not need highly paid staff. It can be managed through the general Revenue Officials of the Government, with 'Shram-Dan' of the villagers under instructions from Public Health Department. Unfortunately our Public Health Department is only awakened by the explosion of epidemics. It is also unfortunate that the private medical practitioners do not attach sufficient importance in giving free advice in prevention of diseases to their regular patients.

The question of prevention in communicable diseases like Malaria, Tuberculosis, Leprosy, Filaria and venereal diseases is still more difficult because of the paucity of medical men and lack of funds. About 84 anti-malarial units were in operation during the first Five Year Plan, and fair amount of success has been achieved. We hope still better results during the next Five Year Plan, as the number of Units will be raised. The question of Tuberculosis and Leprosy is still practically unsolved. It is impossible to house every tubercular patient in a sanatorium but the increase in the number of clinics to all district and even to all the tahsil places, will help immensely in the early detection of cases and thus make it possiple to give domicilliary treatment to a large number of the victims of this disease. This will not only bring about higher percentage of cures in lesser expense, but also avoid to some extent, the demand for beds in the Sanatorium. It will also lessen the number of patients going to advanced and open stage and thus the chances of infecting the public at large, will automatically be minimised. It is wellknown that all the tubercular institutions only admit early cases, obviously to show on record greater percentage of cures. The open cases are refused admission and thrown out to the mercy of God to infect public at large. Most of the institutions still carry on the old accepted treatment of rest, antibiotics and at the most, half-hazard ill-elected collapse theraphy. It is high time that to cut down the duration of illness, surgical procedures should be encouraged and undertaken, on a much larger scale, such as thoracoplasty, lobectomy, and pneumonectomy and so on.

LEPROSY

All cases of Leprosy are not infective, and it is not strictly necessary to admit them in the Leprosaria. About 50 to 60 per cent of this disease can be effectively treated in the clinics for leprosy. What a leper wants is mainly a few soothing and encouraging words, sympathy

DR. R. N. CHAUDHARY, THE PRESIDENT OF THE CONFERENCE.

and regular treatment with Sulphones under observation. Every district place should have a Leprosy Clinic under the supervision of a Medical Officer, conducted by the Government or the Local Bodies. The advanced and infective cases should be segregated, and some provision should be made for them in the Second Five Year Plan.

Coming now to the curative side of the Medical Relief, apparently it is a herculean task, as the number of medical personnel available, is very small. At present, we have got only 70,000 Doctors, 22,000 Nurses, 20,000 Midwives, 800 Health Visitors, 6,000 Nurse-Dais, and 4,000 Sanitary Inspectors in our country, whereas

we need 90,000 Doctors, 80,000 Nurses, 80,000 Midwives, 20,000 Health Visitors, 80,000 Nurse-Dais and Dais, 20,000 Health Assistants and Sanitary Inspectors for the whole of the country.

Curative help includes medical, surgical, maternity and child health and also help in other special diseases, requiring the aid of specialists. The Government has got a net work of institutions rendering medical aid. There are other charitable and semi-charitable institutions also engaged voluntarily in giving medical relief. The most important group is that of private practitioners engaged in this type of medical work. Besides, the practitioners of modern medicine, there are quite a large number of qualified and unqualified Ayurvedic practitioners, Homoeopaths and Hakims, who are contributing their share in offering medical aid to the rural and urban population. Our Government is very broad minded, and it never restricts anyone from practising any system and conveniently overlooks all the short-comings of training, received by many of them, in the unrecognised and bogus institutions. Apparently, this heterogenous medical aid should have been sufficient for the population. But everyone admits that there is a very great demand for medical aid, all the more so in the rural areas. What the public wants is modern treatment. Common ailments can be attended to at their own places, upto certain stages, but the difficulty arises for complicated cases requiring investigations, advanced cases, serious cases, requiring hospitalisation, surgical and maternity cases, and cases requiring specialised services. The medical help for all such cases is absolutely inadequate. The Government should expand their present institutions, and equip and man them with a view to render help to the above class of patients. Surgical centres should be opened in practically every tahsil place. Specialists in all branches should be available in the near future in all the District Hospitals. There should be a maternity and child welfare centre, in each group of about ten villages. Laboratory facilities for routine examinations should be available in every Taluq place and for special investigations in every District Hospital. All these aids should be available to the patients, free or at a very moderate charge from those who can afford, I might humbly say that at present, the treatment at Government Hospitals, both medical and surgical for paying patients, is very costly. The charges for surgical cases, are sometimes exorbitant. Even the treatment given to government servants, for which the government has to pay, is very costly. The usual excuse of non-availability of qualified medical men is always there. It is true, that the number of medical men is very inadequate, but has government ever tried to make the best use of the available medical men? Have they ever tried to encourage training in specialised subjects to their own men in the services? No such major attempt has ever been done. The Government has also never tried to explore the possibility of co-operation from the private practitioners. We are terribly short of nurses, midwives, health visitors, health assistants and dais and sanitary inspectors. Training centres should be opened in as many places as possible, and the candidates should be encouraged to join by offering a small monetary aid. A double shift should be introduced in all institutions engaged in the teaching of the above personnel.

Medical Education and Research

There is alround increase in the number of medical colleges during the First Five Year Plan. The medical colleges have increased from 30 to 42. The annual admissions have increased from 2,500 to 3,500. It is expected that the annual out-turn will be about 2,500 during the Second Plan. There are at present, as quoted previously 70,000 qualified doctors in India and about 12,500 will qualify during the next five years plan. As against this, the number of doctors needed, is 90,000. From the statistics available, there will be a shortage of only 8,000 doctors, at the end of the Second Five Year Plan. The number of medical men trained in indigenous and other systems, is not available at present. But it is expected that the number will come to at least 20,000 to 25,000. If the total aggregate number is taken the medical personnel needed would be sufficient for the country. Whenever statistics are given by the Government, only the strength of the doctors qualified in modern medicine is taken into consideration. The practitioners in other systems are never taken into consideration. If the Government is convinced about the scientific aspects of these systems (its active help does indicate that it is convinced), then the number of practitioners in those systems should also be taken into consideration while speaking about the medical aid. Foreign Governments introduced for their benefits, two standards in the medical education, Graduate and Under-graduate. Our Government is none the wiser by the past experience. M. P. Government has gone still further and have introduced an R.M.P. course, much against the universal protest from the medical profession. The question of registration of the R.M.P.s is still undecided. The evil effects of such a caste system in the medical education, needs no repetition. The Government have also gone several steps ahead. It is patronising liberally the indigenous as well as foreign systems, such as Homoeopathy. I have no grudge against any system. It is the common experience that public at large always choose the modern system, and even the practitioners in the other systems mostly use drugs from modern system. From the I.M.A. platform, time and again we have advocated and requested the Government to introduce a uniform standard in the medical education. The sooner this is done, the better for the public, for the medical profession and medical science. The obstinacy will only lead to sub-standard medical aid; unemployment, cut-throat competition in the medical profession and waste of public money.

Regarding research, recent developments are encourging. We congratulate our Government for creating a Central Institute of Medical Sciences at Delhi. We also express our gratitude to the Rockefeller Foundation for their generous help to certain institutions for the creation of full-time posts in medicine and surgery.

Honorary System

This system serves a dual purpose. It helps the full-time workers to cope up with the enormous rush at the Government and charitable institutions and it also helps the poor to get the benefit of the knowledge and skill of the best men from the private practice. This system should therefore be continued, expanded and introduced wherever possible.

Family Planning

There are no two opinions that India needs regulation in the size of its population. Family Planning Centres should be opened at every district place and these institutions should be conducted with the help of the general practitioners. I think some such scheme is already under consideration and I hope that it would be implemented without delay.

Second Five Year Plan

Our Government has drawn out a very ambitious Second Five Year Plan. As far as we are concerned, our health schemes, modest or otherwise, should be fully worked out. Our Ministers always ask for public co-operation for the working of the Plan, and we, as medical men, should not lag behind in lending our whole-hearted voluntary support to the Government, for the successful outcome of the Second Five Year Health Plan. I voice the feelings of the I.M.A. and all the members of the medical profession when I say that everyone of us is prepared to do his best and help our own Government and our own country for the success of the Plan. While our Government is anxious for the co-operation of the medical profession, and while we are anxious to lend our helping hand to the Government, it is very unfortunate to find that high Government

Officials are equally indifferent to explore the possibility of such a happy co-operation, with the result that the enthusiasm of the medical profession, particularly the private practitioners, dies out. What is needed is the proper approach, and the united working of the official and non-official personnel. Even during the First Five Year Plan, I might say that the I.M.A. and private medical practitioners were never approached or consulted whenever a Provincial or Local Health Scheme was launched. I do not remember a single instance that the D.H.S. when on tour in the districts has ever cared to contact the I.M.A., and the members in private practice, individually or collectively. If they simply express their desire to meet us, and discuss with us health programmes and schemes, we will be too glad to call upon them, and render all possible co-operation. I think any effort made in this direction, will be well-rewarded. The Officials while on tour, have also not taken cognisance of certain charitable and semi-charitable institutions and visited them, with a view to encourage and improve such institutions, worked on the ideals of service to the humanity. These institutions also are doing public health work, and little encouragement from the Government will bring about rapid and constructive improvement in their working, and thus a direct increase in the availability of medical help, can be brought about in many urban and rural areas, without incurring any monetary loss to the Government, I might humbly say this aspect of the mass contact with the medical men and institutions has also been lost sight of, by our popular Health Ministers while on tour.

I appeal to my fellow practitioners to come forward voluntarily and even at the cost of some sacrifice and help in the successful working of the Second Five Year Plan.

* * * * *

The following resolutions were passed at the Conference:

1. This Conference gratefully thanks the State Government for lifting the ban on membership of I.M.A. to the service personnel and also thanks those who helped the Association in getting the ban removed.

2. This Conference again reassures the Government of the whole-hearted co-operation of members of I.M.A. for the implementation of all health Schemes in the Second Five Year Plan and hopes that the Government will take active steps to seek the co-operation of I.M.A.

3. This Conference reiterates its previous resolutions requesting the State Government to enact a law making immunisation compulsory against Whooping Cough, Diphtheria, Tetanus in view of their wide prevalence in children.

4. The Conference again requests the State Government to introduce panel system in implementing the provisions of Employees State Insurance Scheme in this State.

5. Under the present excise rules the registered medical practitioners are required to take license for stocking tinctures for their patients like dealers. This Conference again requests the Government not to treat registered medical practitioners as dealers. Medical practitioners therefore should be exempted from application of that rule and should be allowed to stock spirituous preparations for the bonafide use of their patients without purchasing license. We further state that as registered medical practitioners in view of our registration we are entitled to use and stock spirituous preparations.

6. This Conference again requests the State Government to restart the system of appointing Honorary Medical officers to all the District and other Hospitals in the State and also in various departments of the Medical College Hospital on terms and conditions mutually arrived at between the Government and M. P. State Branch, I.M.A. We further request the Government to fill the existing vacant posts.

BRANCH NOTES

ALLAHABAD BRANCH—A meeting of the branch was held on 19-1-57. The members condoled the death of Dr. B. K. Mukerji, one of the most ardent members of the association.

BIJAPUR BRANCH—The annual meeting of the branch was held on 11-11-56. Office-bearers for 1956-57 were elected with Dr. G. N. Mangalvedhekar as president and Dr. M. D. Mahindrakar as hony. secretary.

A meeting of the branch was held on 15-11-56 with Dr. Mangalvedhekar in the chair. Dr. T. M. Pai, the founder of Kasturba Medical College addressed the meeting.

A meeting was held on 30-12-56. Dr. Mangalvedhekar presided. Dr. Kokatnur spoke on "The Modern Trend in Surgery". Fifteen members were present.

A meeting was held on 28-1-57. Dr. R. S. Padaki of Madura spoke on "Integrated Personality—a psychological approach—Eastern and Western type. Fourteen members were present.

BUD BUD BRANCH—A meeting of the medical practitioners of Bud Bud was held on 18-12-56. A branch of IMA under the name of Bud Bud Branch was formed with Dr. G. C. Roy as president and Shaikh Noorjan as hony. secretary.

CHIKMAGALUR BRANCH—A meeting of the branch was held on 19-1-57 with Dr. S. Krishnaswamy Rao, District Health Officer in the chair. The meeting requested the Provincial Branch, I.M.A. to take immediate action in securing a common scale of pay to all medical men in par with other neighbouring states like Andhra and Madras. Dr. N. Thimmaiah spoke on Haemoptysis and Dr. K. Subramanian discussed a case.

CHITALDROOG BRANCH—A meeting of the branch was held on 19-1-57. Dr. L. N. Rajagopal Rao, DMO, Chitaldroog was elected president for the remaining period of the year in place of Dr. D. Shamanna, transferred. Dr. Annapurnamma of Hosadurga read a case report of Amoebic Granuloma in the left Iliac region. Dr. M. Appajappa showed some interesting radiograms. The meeting requested the government to reconsider the question of pay for Licentiate medical men in government service and fix their pay as per Madras scale.

DEHRI-DALMIANAGAR-SASARAM BRANCH—A meeting of the branch was held on 23-1-57. The meeting resented the exclusion of medical graduates for appearing in the examination of the emergency recruitment of I.A.C. personnel, while other technical persons like the Engineering graduates have been included.

DIGRI BRANCH—A meeting of the branch was held on 2-1-57 with Dr. S. K. Ganguli in the chair. Right members were present. Dr. J. D. Mondal was elected hony. secretary in place of Dr. G. C. Saha, transferred. It was decided to subscribe the British Medical Journal from January, 1957.

GORAKHPUR BRANCH—A meeting of the branch was held on 29-1-57 with Dr. K. N. Lahari in the chair. Fortysix members were present. After the normal business was over, the following cases were shown:

1. KW Syndrome by Dr. B. P. Dubey.
2. Maculopathy by Dr. G. K. Saraf.
3. Normal Chest Variation by Major Ramakishan.

JAMNI BRANCH—The annual meeting of the branch was held on 17-11-56 with Dr. N. M. Mukherjee in the chair. Office-bearers for 1956-57 were elected with Dr. N. M. Mukherjee as president, Dr. R. B. Pd as secretary and Dr. M. K. Singh as joint secretary.

A meeting of the branch was held on 23-12-56 with Dr. B. N. Pandaya in the chair. Eleven members were present. The following subjects were discussed: (1) Management of Retained Placenta of 24 hours duration;

(2) Treatment of Corneal Ulceration in a child with Diarhoea and Malnutrition and (3) Treatment of Eosinophilic Lungs in a patient with Albuminuria.

A meeting of the branch was held on 27-1-57 with Dr. N. M. Mukherjee in the chair. Eleven members were present. A symposium on Filariasis was held with Dr. A. B. Sanyal leading the discussion.

JAMTARA BRANCH—A meeting of the branch was held on 29-1-57 with Dr. G. S. P. Sinha in the chair. Six members were present. Dr. S. K. Gon gave his impressions of the All India Medical Conference held at Trivandrum. The secretary's report was adopted.

An extra-ordinary meeting of the branch was held on 9-2-57. Six members were present. Dr. C. Chowdhury, Ophthalmological Registrar of the Patna Medical College Hospital spoke on diagnosis, differential diagnosis and treatment of Lid Infections (Stye, Chalazion, Enteropion), Conjunctivitis, Trachoma, Iritis, Keratitis and Glaucoma.

KANDARA BRANCH—The annual meeting of the branch was held on 28-10-56 with Dr. B. Bhattacharjee in the chair. The annual report and audited accounts for 1955-56 were adopted. Six general meetings were held during the year. Office-bearers for 1956-57 were elected with Dr. B. K. Bhattacharjee as president and Dr. D. P. Chatterjee as hony. secretary.

KANPUR BRANCH—A meeting of the branch was held on 20-1-57 with Dr. R. Prasad in the chair. Thirty-two members were present. Dr. N. L. Sharma of K. G. Medical College, Lucknow, spoke on Infantile Cirrhosis of Liver.

Republic Day was celebrated by the members of the branch on 26-1-57 in the Temple of Service. An enjoyable programme was arranged.

KATWA BRANCH—The annual general meeting of the branch was held on 15-12-56 with Dr. D. Chandra in the chair. Ten members were present. The secretary's report was adopted. The organising secretary of the last Rural Medical Conference gave a short account of the conference. Office-bearers for 1956-57 were elected. Dr. D. Chandra and Dr. S. Guha and Dr. H. M. Sinha were re-elected as president, hony. secretary and joint secretary respectively. The report of the secretary for 1955-56 narrated the commendable Relief work done by the members in connection with the flood. Membership during the year rose from 28 to 36. Eighteen meetings were held of which 2 were special.

MADRAS STATE BRANCH—A meeting of the Council of the State Branch was held on 29-9-56. Dr. Y. P. Vasudevan presided. Thirty-four members were present. The meeting condoled the death of Dr. D. Narayana Iyer, Nagpattinam ; Dr. R. Srinivasa Rao, Saidapet ; Dr. M. Ramanuja Naidu, Pudukottah. It was decided that the present president and vice-presidents would continue in office for 1956-57 and no fresh election was needed. Regarding internship and residencies in USA/Canada only one applicant appeared before interview and was recommended to the Central Selection Committee for consideration. Regarding the recognition and affiliation of the Palghat branch, the secretary of the branch was asked to obtain a letter of consent from the Malabar branch regarding the affiliation. Dr. Arumugam was elected hony. secretary of the Madras State Branch for 1956-57 and Dr. V. Vijoyaraghavan, the hony. joint secretary. The council recommended to the Government to raise the retiring age limit of medical men in government service from 55 to 60. The council requested the government of India to take into consideration the points stressed and submitted to the Union Health Minister by IMA regarding the amendment of the Indian Medical Council Act and requested to defer the passage of the bill.

The annual report of the Madras State Branch for 1955-56 shows that membership increased during the year by 152. There were 5 meeetings of the State Council but the attendance was not very satisfactory. The 10th Madras State Medical Conference 1955 was held at Salem and was well attended. An amount of Rs. 917/- was collected for Cyclone Relief Fund but as adequate relief was already arranged by the government, it was decided to keep the amount as a separate fund to be utilised on a future occasion. The activities of the branch during the year were varied and useful.

MAHARASTRA AND KARNATAK PROVINCIAL BRANCH—Dr. V. B. Davalbhakta of Jalgaon has been elected as president of the 16th M. & K. Provincial Medical Conference to be held at Hubli on 18-20 May, 1957.

MANDAPETA BRANCH—A meeting of the branch was held on 25-12-56. Dr. B. Subba Rao discussed a case of Amoebic Hepatitis.

A meeting was held on 25-1-57. Dr. C. Narasimha Rao gave an account of the All-India Medical Conference held at Trivandrum.

RAMPUR BRANCH—The annual meeting of the branch was held on 6-1-57. Office-bearers for 1956-57 were elected with Dr. K. K. Roy Chowdhury as president, Dr. P. R. Gupta as hony. secretary and Dr. K. Kumar as joint secretary. It was decided to hold 2 meetings every month, one academic and the other social.

A meeting of the branch was held on 3-2-57 with Dr. K. K. Roy Chowdhury, Civil Surgeon in the chair. Dr. P. R. Gupta read a paper on "Diet of the Healthy Infant".

SHIMOGA BRANCH—A meeting of the branch was held on 12-1-57. Dr. Shama Rao presided. The following subjects were discussed : (1) A case report of Erb's Type of Muscular Dystrophy by Dr. H. Chandrasekarappa, (2) Demonstration of a case of Bilateral Soft Palate Paralysis due to Diphtheria by Dr. A. S. Kantharaja Setty, (3) Report of a case of Dentigerous Cyst, (4) Demonstration of a case of Myeloid Leukaemia by Dr. C. Krishnachari, (5) Demonstration of a case of Tuberculosis of Intestines by Dr. Lalitha Lingiah, (6) Bone Cyst in the upper end of left Humerus by Dr. D. Krishna Murthy.

TIRUCHY BRANCH—A meeting of the branch was held on 22-12-56 with Dr. K. G. Menon in the chair. Dr. M. Natarajan of Madras spoke on "Tuberculosis of the Spine" and Dr. V. Krishnamoorthy on "Radium and Cancer Problem".

UDAIPUR BRANCH—A meeting of the branch was held on 3-12-56 with Dr. R. N. Sachdev in the chair. Twentyfour members were present. Office-bearers for 1956-57 were elected with Dr. R. N. Sachdeva as president and Dr. Gyan Prakash as secretary.

X GUJARAT AND SAURASHTRA PROVINCIAL MEDICAL CONFERENCE, 1957
JUNAGADH

The 10th annual conference of medical men of Gujarat and Saurashtra will be held at Junagadh on 3-5 May, 1957. A Reception Committee has been formed under the chairmanship of Dr. R. P. Vyas, Chief Medical Officer, Sorath.

For further particulars, please write to the Organising Secretary, 10th Provincial Medical Conference, Upercot, Junagadh.

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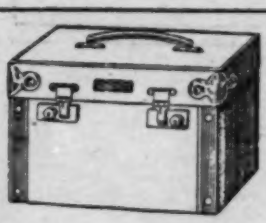

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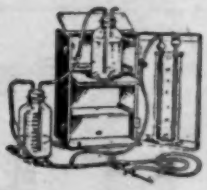

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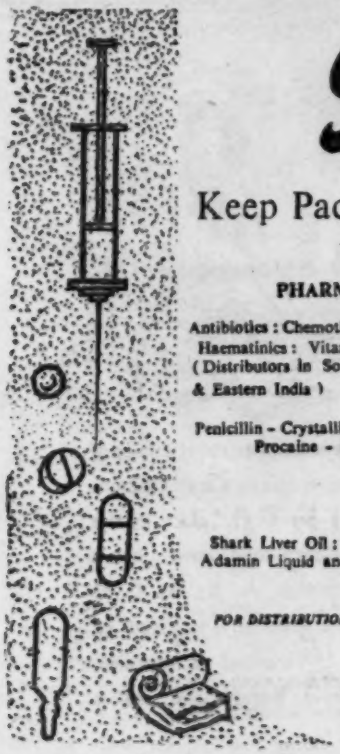

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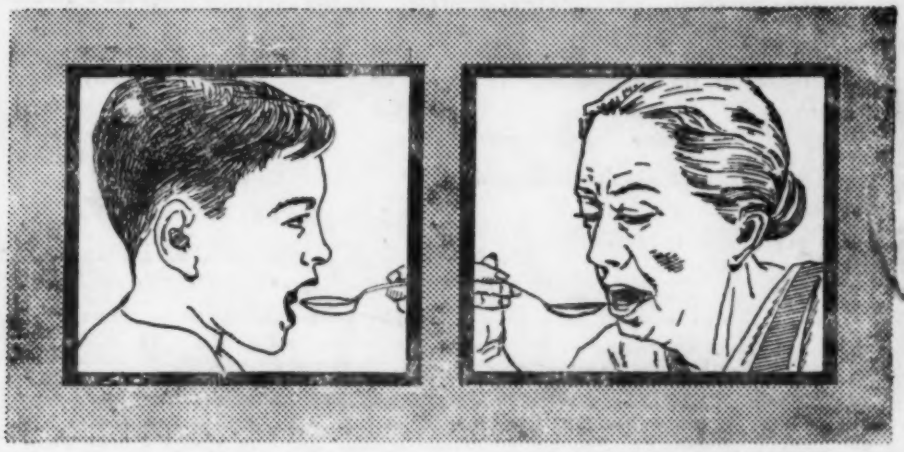

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